

# SUMMIT

LAND MANAGEMENT

**3202 NORTH SCOTTSDALE ROAD  
Scottsdale, Arizona**

**Abbreviated Traffic Impact Analysis REVISED**

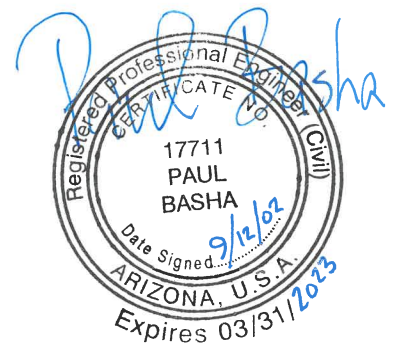
**September 2022**

**Prepared for:**  
3202 Scottsdale, LLC

**For Submittal to:**  
CITY OF SCOTTSDALE

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**Table of Contents**

Executive Summary ..... 1

*Introduction* ..... 1

*Results*..... 1

*Recommendations without 3202 Scottsdale*..... 1

*Recommendations with 3202 Scottsdale*..... 1

Introduction ..... 2

Surrounding Transportation System..... 2

Scope of Study ..... 3

Collision Analysis ..... 3

Existing Traffic Volumes..... 6

Ambient 2024 Traffic Volume ..... 12

Proposed 3202 Scottsdale Estimated Trip Generation ..... 15

Proposed 3202 Scottsdale Estimated Traffic Assignment ..... 19

Level-of-Service Analysis..... 26

Left-Turn Arrow Analysis..... 28

**List of Figures**

Figure 1: General Vicinity Map with Aerial Photograph..... 2

Figure 2: General Vicinity Streets and Intersection Lane Configurations ..... 3

Figure 3: Existing Count 2022 Day Approach and Departure Volumes ..... 7

Figure 4: Existing Count 2022 AM Peak Hour Approach and Departure Volumes..... 7

Figure 5: Existing Count 2022 AM Peak Hour Turning Volumes ..... 8

Figure 6: Existing Count 2022 PM Peak Hour Approach and Departure Volumes..... 8

Figure 7: Existing Count 2022 PM Peak Hour Turning Volumes ..... 9

Figure 8: 2022 Adjusted Day Approach and Departure Volumes ..... 9

Figure 9: 2022 Adjusted AM Peak Hour Approach and Departure Volumes..... 10

Figure 10: 2022 Adjusted AM Peak Hour Turning Volumes ..... 10

Figure 11: 2022 Adjusted PM Peak Hour Approach and Departure Volumes..... 11

Figure 12: 2022 Adjusted PM Peak Hour Turning Volumes ..... 11

Figure 13: 2024 Day Approach and Departure Volumes ..... 12

Figure 14: 2024 AM Peak Hour Approach and Departure Volumes ..... 13

Figure 15: 2024 AM Peak Hour Turning Movement Volumes..... 13

Figure 16: 2024 PM Peak Hour Approach and Departure Volumes ..... 14

Figure 17: 2024 PM Peak Hour Turning Movement Volumes..... 14

Figure 18: 3202 Scottsdale Access Trip Distribution ..... 20

Figure 19: 3202 Scottsdale Approach and Departure Volumes Day..... 20

Figure 20: 3202 Scottsdale Approach and Departure Volumes Morning Peak Hour..... 21

Figure 21: 3202 Scottsdale Turning Volumes Morning Peak Hour ..... 21

Figure 22: 3202 Scottsdale Approach and Departure Volumes Evening Peak Hour..... 22

Figure 23: 3202 Scottsdale Turning Volumes Evening Peak Hour ..... 22

Figure 24: 2024 with 3202 Scottsdale Approach and Departure Volumes Day..... 23

Figure 25: 2024 with 3202 Scottsdale Approach and Departure Volumes AM Peak..... 24

Figure 26: 2024 with 3202 Scottsdale Turning Movement Volumes AM Peak Hour ..... 24

Figure 27: 2024 with 3202 Scottsdale Approach and Departure Volumes PM Peak..... 25

Figure 28: 2024 with 3202 Scottsdale Turning Movement Volumes PM Peak Hour ..... 25

**List of Tables**

Table 1: Collision Manner History Summary: Scottsdale / Earll for 2015 through 2020 ..... 4

Table 2: Collision Travel Direction: Scottsdale / Earll for 2015 through 2020..... 4

Table 3: Collision Injury Severity: Scottsdale / Earll for 2015 through 2020 ..... 5

Table 4: Peak 60-minute periods at Scottsdale / Earll Existing 2022 Traffic Counts ..... 6

Table 5: Estimated Trip Generation for Proposed 150 Apartment Homes ..... 15

Table 6: Estimated Trip Generation for Potential 4,000-Square-Foot Retail ..... 17

Table 7: Estimated Trip Generation for Proposed Apartments Plus Retail ..... 17

Table 8: Estimated Trip Generation for Potential 4,000-Square-Foot Athletic Club ..... 19

Table 9: Estimated Trip Generation for Proposed Apartments Plus Athletic Club ..... 19

Table 10: Intersection Level-of-Service Criteria..... 26

Table 11: LOS – without and with 3202 Scottsdale – AM Peak Hour ..... 27

Table 12: LOS – without and with 3202 Scottsdale – PM Peak Hour ..... 27

Table 13: City of Scottsdale Left-Turn Arrow Criteria ..... 28

Table 14: Left-Turn Arrow Peak Hour Volume Criteria Analysis – Adjusted Existing 2022 Volume ..... 28

Table 15: Left-Turn Arrow Peak Hour Volume Criteria Analysis – 2024 Volume ..... 29

Table 16: Left-Turn Arrow Peak Hour Volume Analysis – 2024 With 3202 Scottsdale Volume..... 29

**List of Appendices**

Collision Analysis ..... A

2022 Traffic Counts..... B

Trip Generation ..... C

Level-of-Service without and with 3202 Scottsdale ..... D

    City of Scottsdale Signal Timing Plans for Scottsdale / Earll ..... D.1

    Adjusted Existing 2022 Traffic Volumes ..... D.2

    Ambient 2024 Traffic Volumes ..... D.3

    2024 with 3202 Scottsdale ..... D.4

## ***Executive Summary***

### ***Introduction***

The 3202 Scottsdale, LLC is planning the development of 150 apartments and 4,000 square feet of commercial north of the northwest corner of the intersection of Scottsdale Road and Earll Drive.

### ***Results***

The proposed 3202 Scottsdale development of 150 apartments and 4,000 square feet of commercial is anticipated to generate an additional; as a total of both directions; 1,314 daily; 79 morning peak hourly; and 109 evening peak hourly vehicles.

During the evening peak hour with adjusted 2022 existing traffic volumes, the Earll Drive westbound left-turn at Scottsdale Road experiences level-of-service "f" calculation. by calculation.

Northbound and southbound left-turn arrows are not justified.

### ***Recommendations without 3202 Scottsdale***

During the evening peak hour, the City of Scottsdale should observe and measure the delay for westbound left-turning vehicles on Earll Drive at Scottsdale Road to determine if the east-west green indication should be lengthened.

### ***Recommendations with 3202 Scottsdale***

No improvements beyond access and turn lanes at the 3202 Scottsdale property are justified or necessary.



### **Introduction**

The 3202 Scottsdale, LLC is planning the development of 150 apartments and 4,000 square feet of commercial north of the northwest corner of the intersection of Scottsdale Road and Earll Drive. The commercial development is anticipated to be either a retail business or an athletic club.

The location of the 3202 Scottsdale proposed development is depicted in **Figure 1**.



**Figure 1: General Vicinity Map with Aerial Photograph**

### **Surrounding Transportation System**

**Figure 2** provides a street map of the general vicinity. The dominant resident access to the 3202 North Scottsdale Road property will be 71<sup>st</sup> Street. The Scottsdale Road access will only be utilized for prospective tenants and perhaps guests and deliveries.

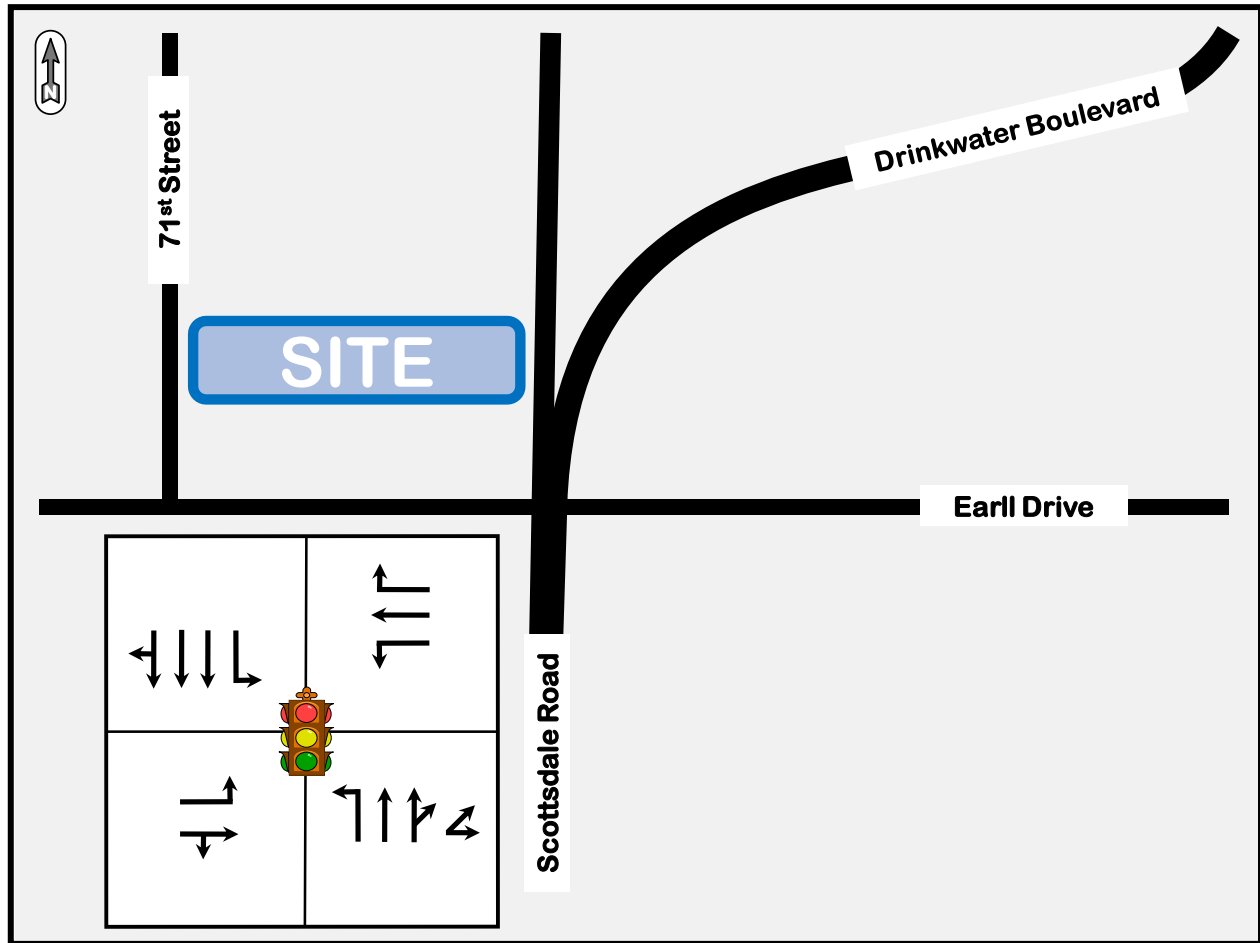


Figure 2: General Vicinity Streets and Intersection Lane Configurations

**Scope of Study**

Seven (7) purposes exist for this analysis:

- Evaluate historic collision experience at the Scottsdale / Earl intersection.
- Evaluate existing traffic operation at the Scottsdale / Earl intersection.
- Estimate and evaluate future ambient 2024 traffic volumes.
- Estimate new traffic generated by the proposed 3202 Scottsdale.
- Distribute and assign new traffic to the Scottsdale / Earl intersection.
- Evaluate 2024 with 3202 Scottsdale traffic conditions at the Scottsdale / Earl intersection.
- Determine need for modified traffic control at the Scottsdale / Earl intersection.

**Collision Analysis**

Arizona Department of Transportation collision data for the Scottsdale / Earl intersection were analyzed for calendar years 2015 through 2020. The Arizona Department of Transportation has not yet released the 2021 collision data.

Appendix A provides the complete collision data.

**Table 1** summarizes the collision data for calendar years 2015 to 2020 at the Scottsdale / Earll intersection. The dominant collision type – as is common for urban signalized intersections – is rear-end. Left-Turn-Angle and Angle collisions are respectively the second and third highest.

**Table 1: Collision Manner History Summary: Scottsdale / Earll for 2015 through 2020**

	ANGLE	REAR-END	SINGLE VEHICLE	LEFT-TURN HEAD-ON	LEFT-TURN ANGLE	LEFT-TURN OTHER	SIDE-SWIPE SAME	SIDE-SWIPE OPPOSITE	HEAD-ON	OTHER	TOTAL
2015	1	4	0	1	1	1	1	1	0	0	10
2016	1	11	1	0	3	0	3	0	0	0	19
2017	4	2	0	2	5	1	2	0	0	0	16
2018	4	5	0	2	2	1	2	0	2	0	18
2019	3	5	1	1	5	1	1	0	0	0	17
2020	6	3	1	1	5	0	1	0	0	0	17
TOTAL	19	30	3	7	21	4	10	1	2	0	97
PORTION	20%	31%	3%	7%	22%	4%	10%	1%	2%	0%	100%

**Table 2** summarizes the travel directions of the vehicles involved in each collision during calendar years 2015 – 2020 at the intersection of Scottsdale / Earll. Collision travel direction is not reported for every collision in the Arizona Department of Transportation data. The largest number of collisions is both northbound vehicles and both southbound vehicles, followed by northbound and eastbound, then northbound and westbound vehicles.

**Table 2: Collision Travel Direction: Scottsdale / Earll for 2015 through 2020**

	2015	2016	2017	2018	2019	2020	TOTAL	PORTION
Northbound Only	0	0	0	0	0	1	1	1%
Southbound Only	0	0	0	0	1	0	1	1%
Eastbound Only	0	1	0	0	0	0	1	1%
Westbound Only	0	0	0	0	0	0	0	0%
Northbound and Northbound	3	4	1	5	4	3	20	21%
Southbound and Southbound	1	10	3	3	2	1	20	21%
Eastbound and Eastbound	0	0	0	0	0	0	0	0%
Westbound and Westbound	0	0	0	1	1	0	2	2%
Northbound and Eastbound	1	1	3	1	3	6	15	16%
Northbound and Westbound	0	1	4	4	1	3	13	14%
Southbound and Eastbound	1	1	0	1	0	1	4	4%
Southbound and Westbound	2	1	2	1	4	0	10	11%
Northbound and Southbound	1	0	1	1	1	2	6	6%
Eastbound and Westbound	0	0	1	1	0	0	2	2%
TOTAL	9	19	15	18	17	17	95	100%

Of the 3 angle and left-turn-angle collisions that occurred in 2015, 1 involved a northbound vehicle and 2 involved a southbound vehicle.

Of the 6 angle and left-turn-angle collisions that occurred in 2016, 3 involved a northbound vehicle and 3 involved a southbound vehicle.



Of the 9 angle and left-turn-angle collisions that occurred in 2017, 8 involved a northbound vehicle and 1 involved a southbound vehicle. Additionally, the left-turn-other collision involved a southbound vehicle.

Of the 6 angle and left-turn-angle collisions that occurred in 2018, 4 involved a northbound vehicle and 2 involved a southbound vehicle. Another collision occurred in 2018 involving a northbound through vehicle and a left-turning westbound vehicle that was classified as a head-on collision.

Of the 8 angle and left-turn-angle collisions that occurred in 2019, 4 involved a northbound vehicle and 4 involved a southbound vehicle.

Of the 11 angle and left-turn-angle collisions that occurred in 2020, 10 involved a northbound vehicle and 1 involved a southbound vehicle.

**Table 3** summarizes the worst injury severities in each collision for calendar years 2015 to 2020 at the Scottsdale / Earll intersection. Collision injury severity is not reported for every collision in the Arizona Department of Transportation data.

One collision in six (6) years involved suspected serious injuries, and occurred in 2016. This was a rear-end collision involving two (2) southbound vehicles. The driver of the vehicle was cited for "too fast for conditions."

**Table 3: Collision Injury Severity: Scottsdale / Earll for 2015 through 2020**

SEVERITY	NUMBER	PORTION
No Injury	28	61%
Possible Injury	5	11%
Suspected Minor Injury	12	26%
Suspected Serious Injury	1	2%
Fatal Injury	0	0%
Unknown	0	0%
Not Reported	0	0%
<b>TOTAL</b>	<b>46</b>	<b>100%</b>

Left-turn-head-on collisions on Scottsdale Road were a stated concern of City of Scottsdale Transportation and Streets at the Scottsdale / Earll intersection. The one left-turn-head-on collision in 2015 involved a southbound left-turning vehicle and a northbound through vehicle. The driver of the southbound left-turning vehicle was cited for "left-turn-head-on collision." No left-turn-head-on collisions occurred in 2016.

In 2017, one (1) of two (2) left-turn-head-on collisions involved a southbound through vehicle and a northbound left-turning vehicle. The driver of the southbound through vehicle was cited for "Disobey Traffic Signal." The driver of the northbound left-turning vehicle was cited for "Left Turn on Red Signal." The other left-turn-head-on collision that occurred in 2017 involved a westbound left-turning vehicle and an eastbound through vehicle. The driver of the westbound left-turning vehicle was cited for "Stop for Red Signal."

In 2018, one (1) of two (2) left-turn-head-on collisions involved a southbound left-turning vehicle and a northbound through vehicle. The driver of the southbound through vehicle was cited for "Left Turn on Red Signal." The other left-turn-head-on collision that occurred in 2018 involved a westbound left-turning vehicle and an eastbound through vehicle. The driver of the westbound left-turning vehicle was cited for "Improper Turn."



In 2019, the one (1) left-turn-head-on collision involved a southbound left-turning vehicle and a northbound through vehicle. The driver of the southbound left-turning vehicle was cited for "Failure to Yield at Signal."

In 2020, the one (1) left-turn-head-on collision involved a southbound left-turning vehicle and a northbound through vehicle. The driver of the southbound left-turning vehicle was cited for "Failure to Yield at Signal."

### Existing Traffic Volumes

Traffic counts for the Scottsdale / Earll intersection were obtained on 19 July 2022. The City of Scottsdale 2020 Traffic Volume and Collision Report suggests that July traffic counts in Scottsdale are an estimated 93% of the annual average. Therefore, the 2022 Scottsdale / Earll traffic counts for individual movements were divided by 0.93.

**Appendix B** provides the turning movement counts for 24 hours in 15-minute increments. **Figure 3** provides the existing approach and departure volumes for the day.

**Table 4** provides the time and total intersection 60-minute traffic volume. The morning peak 60-minute period occurred from 11:45 AM to 12:45 PM. The evening peak 60-minute period occurred between 4:45 PM and 5:45 PM. However, the City of Scottsdale required that the morning peak hour be considered as between 7:00 AM and 9:00 AM. Therefore, the lower volume, 8:00 AM to 9:00 AM traffic volumes were utilized for the morning peak hour analysis.

**Table 4: Peak 60-minute periods at Scottsdale / Earll Existing 2022 Traffic Counts**

PERIOD	TIME	TOTAL INTERSECTION VOLUME
Morning Peak 60-minute	8:00 AM to 9:00 AM	1,721
Mid-Day Peak 60-minute	11:45 AM to 12:45 PM	2,382
Evening Peak 60-minute	4:45 PM to 5:45 PM	2,464

**Figure 3** provides the existing adjusted approach and departure volumes for the day. **Figure 4** and **Figure 5** respectively provide the existing approach and departure volumes, and the turning volumes for the morning peak hour. **Figure 6** and **Figure 7** respectively provide the existing approach and departure volumes, and the turning volumes for the evening peak hour. **Figure 8** through **Figure 12** provide similar volumes for the adjusted existing 2022 counts.

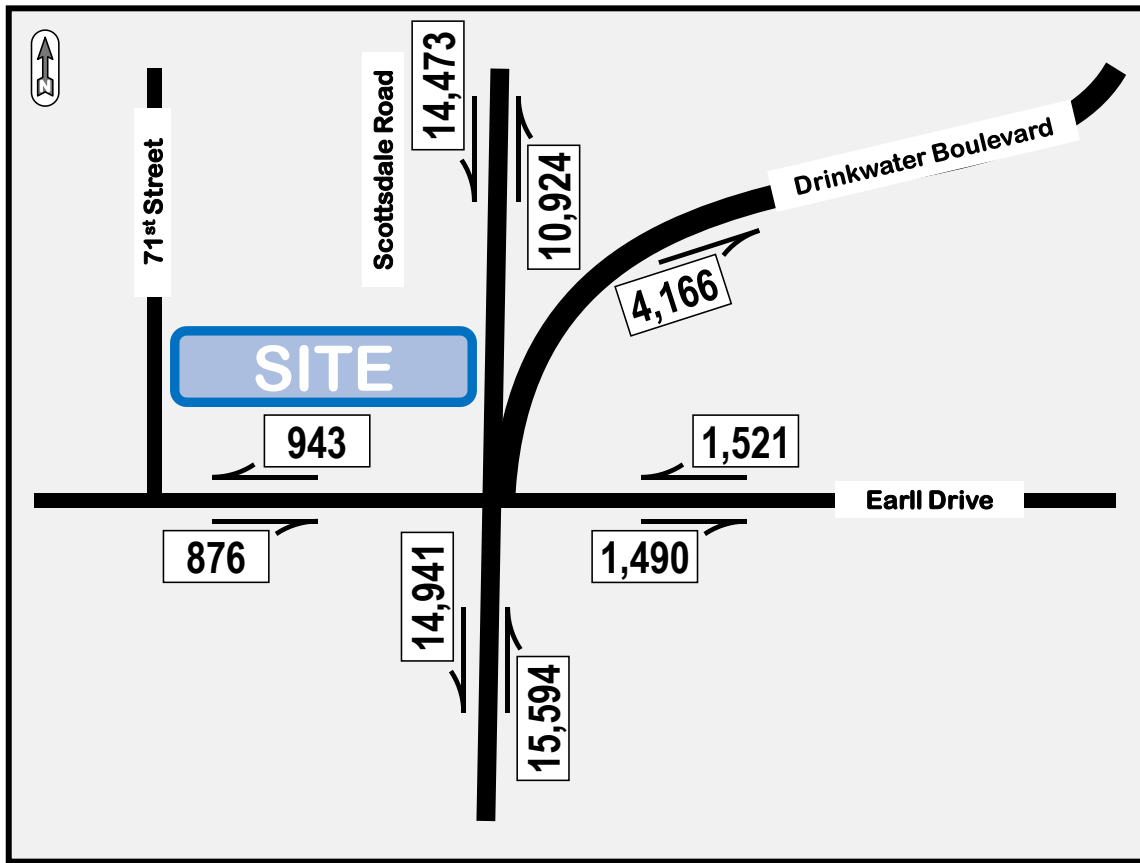


Figure 3: Existing Count 2022 Day Approach and Departure Volumes

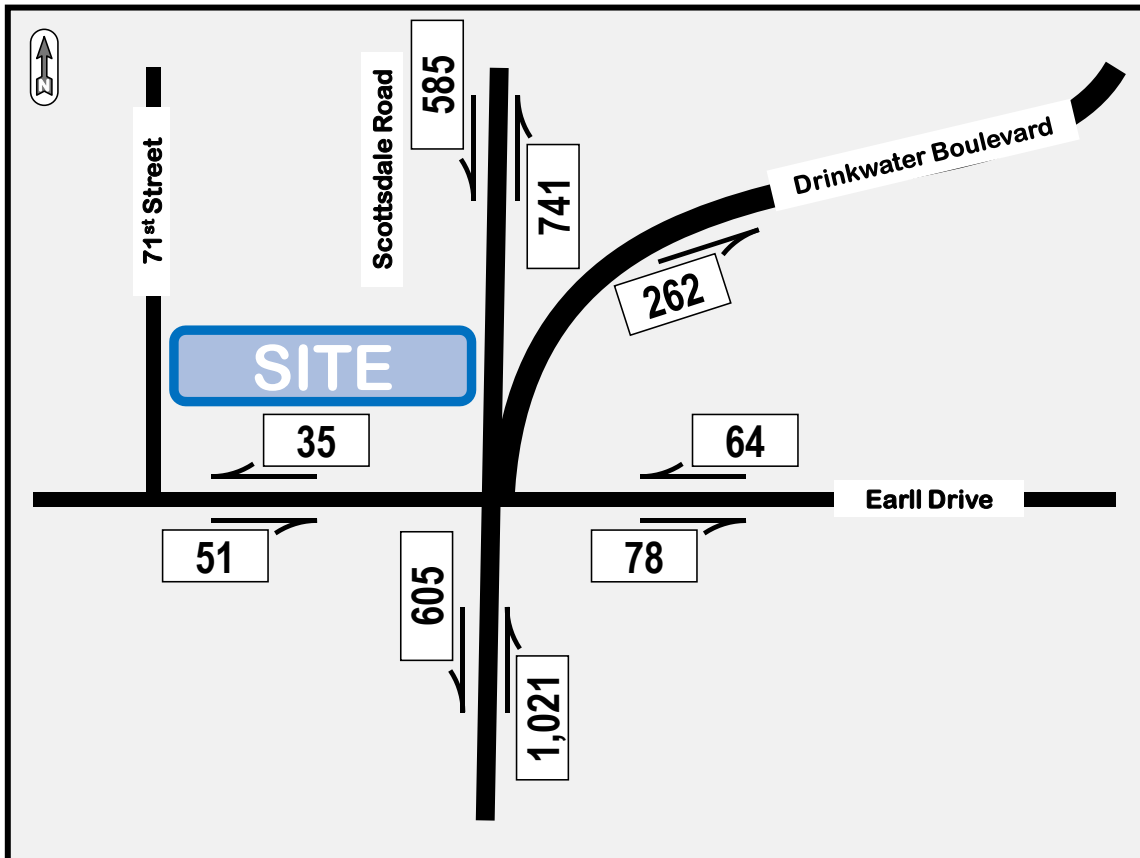


Figure 4: Existing Count 2022 AM Peak Hour Approach and Departure Volumes

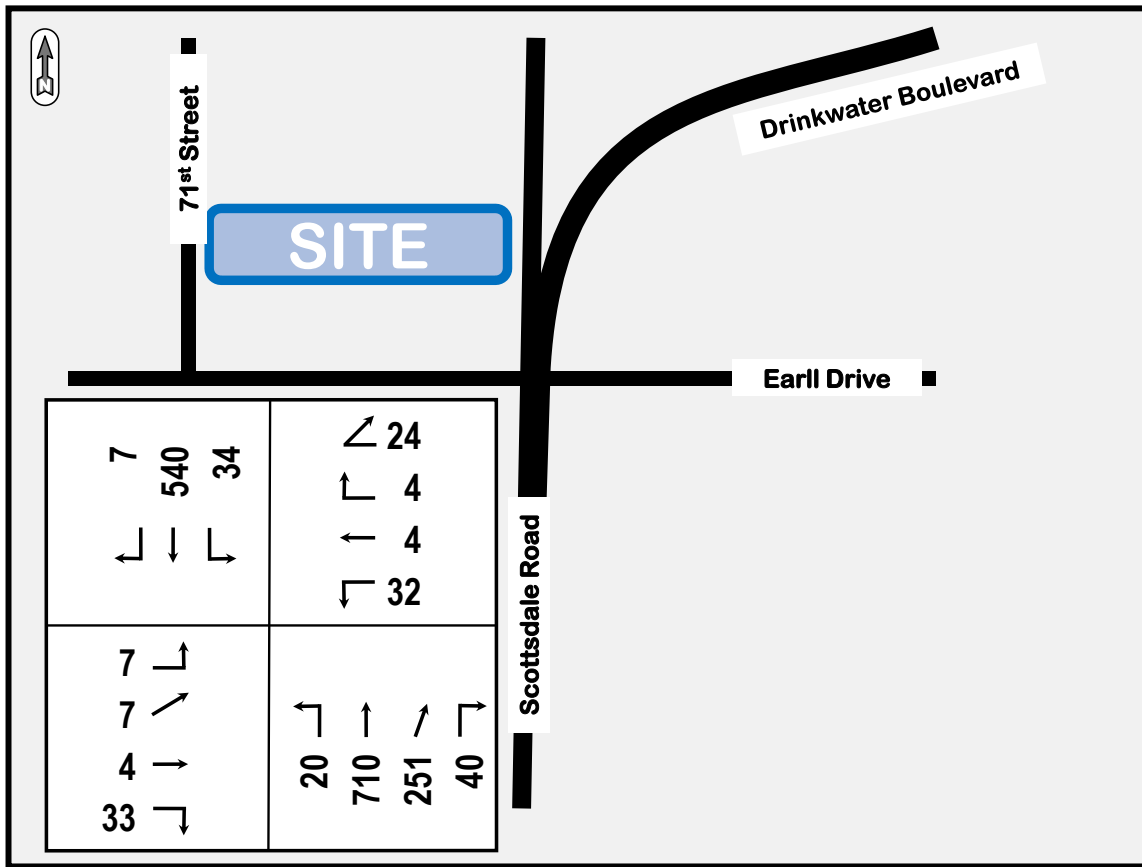


Figure 5: Existing Count 2022 AM Peak Hour Turning Volumes

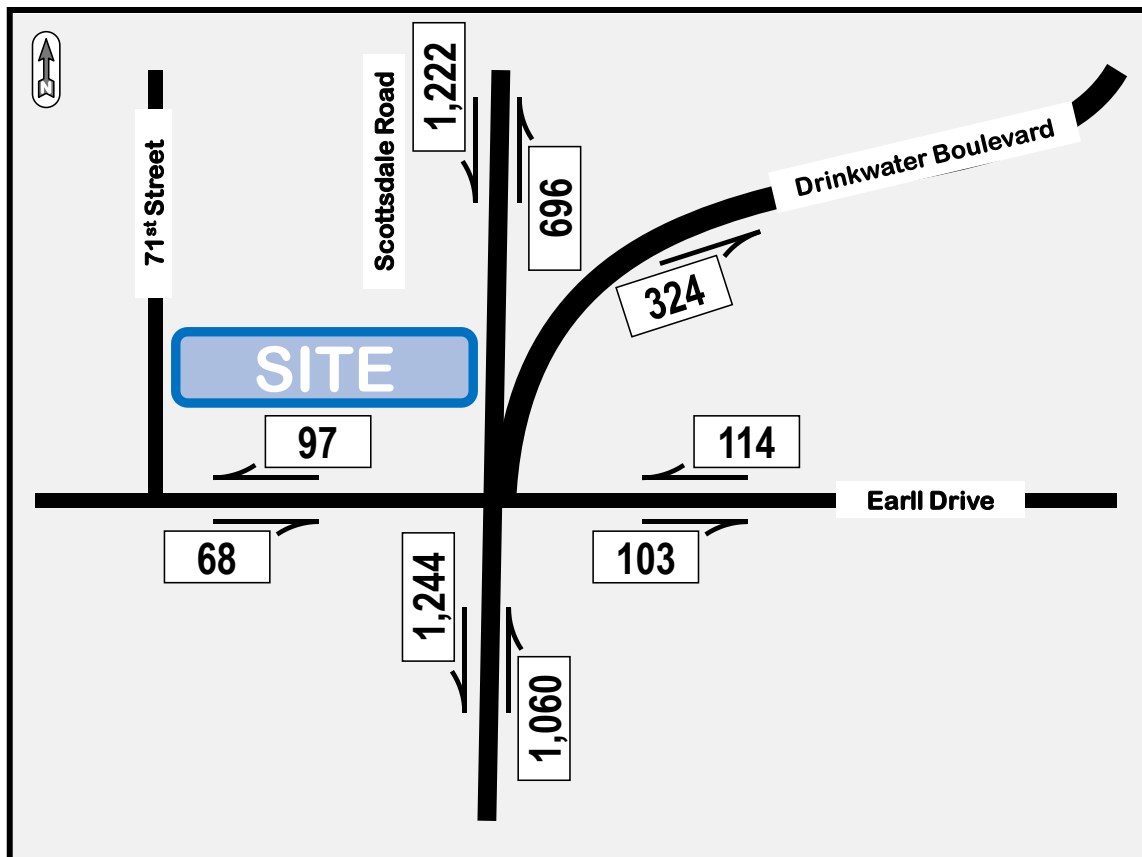


Figure 6: Existing Count 2022 PM Peak Hour Approach and Departure Volumes

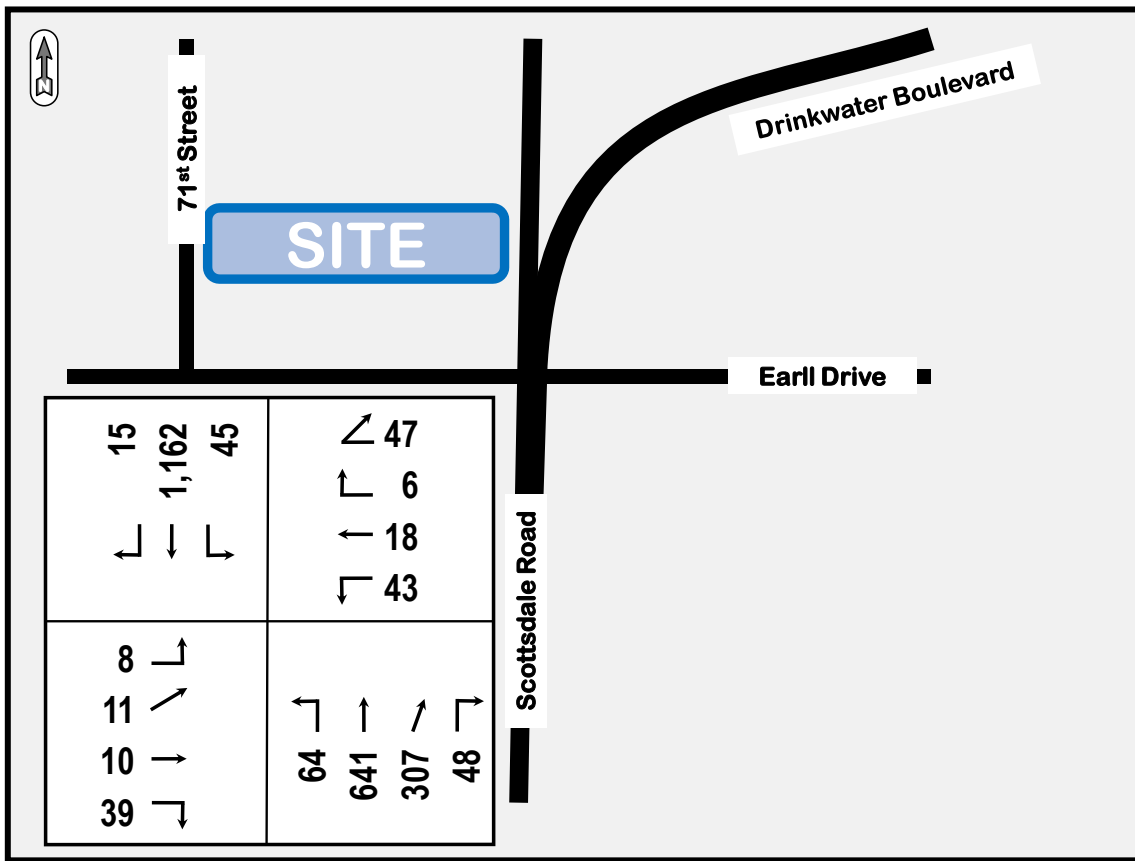


Figure 7: Existing Count 2022 PM Peak Hour Turning Volumes

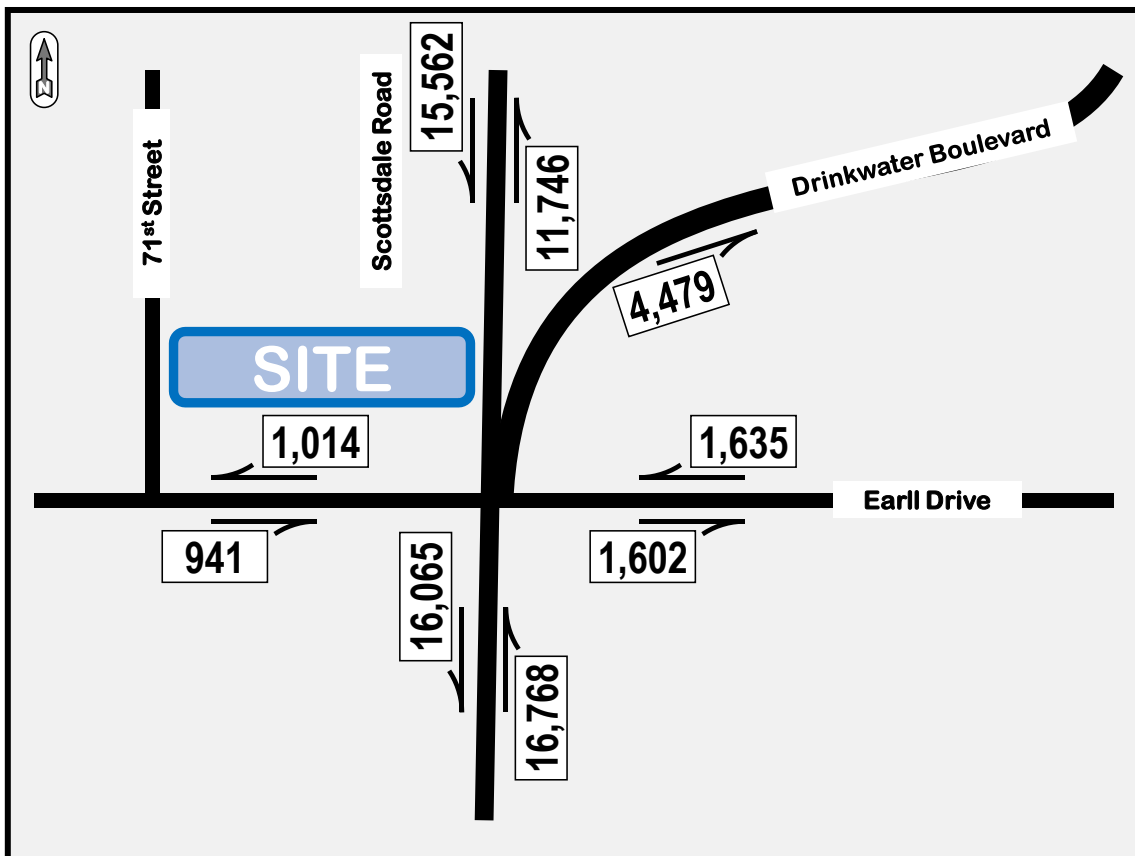


Figure 8: 2022 Adjusted Day Approach and Departure Volumes

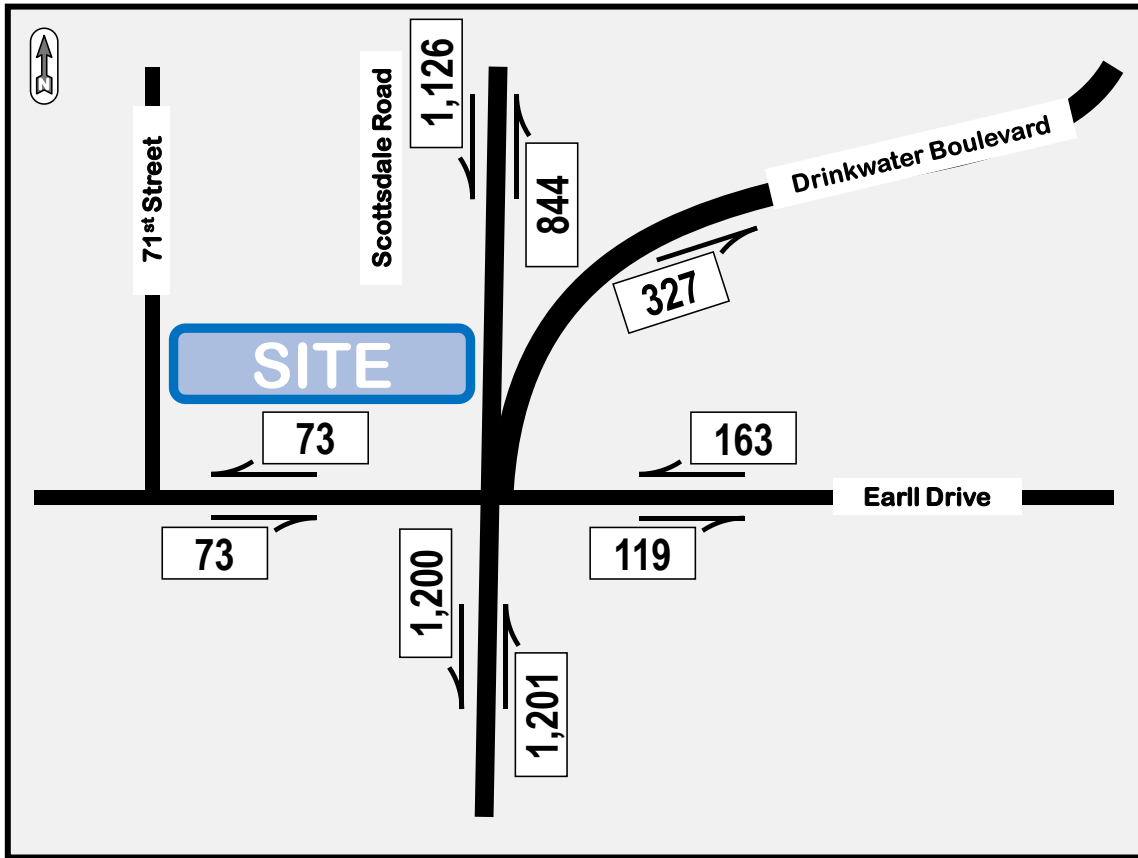


Figure 9: 2022 Adjusted AM Peak Hour Approach and Departure Volumes

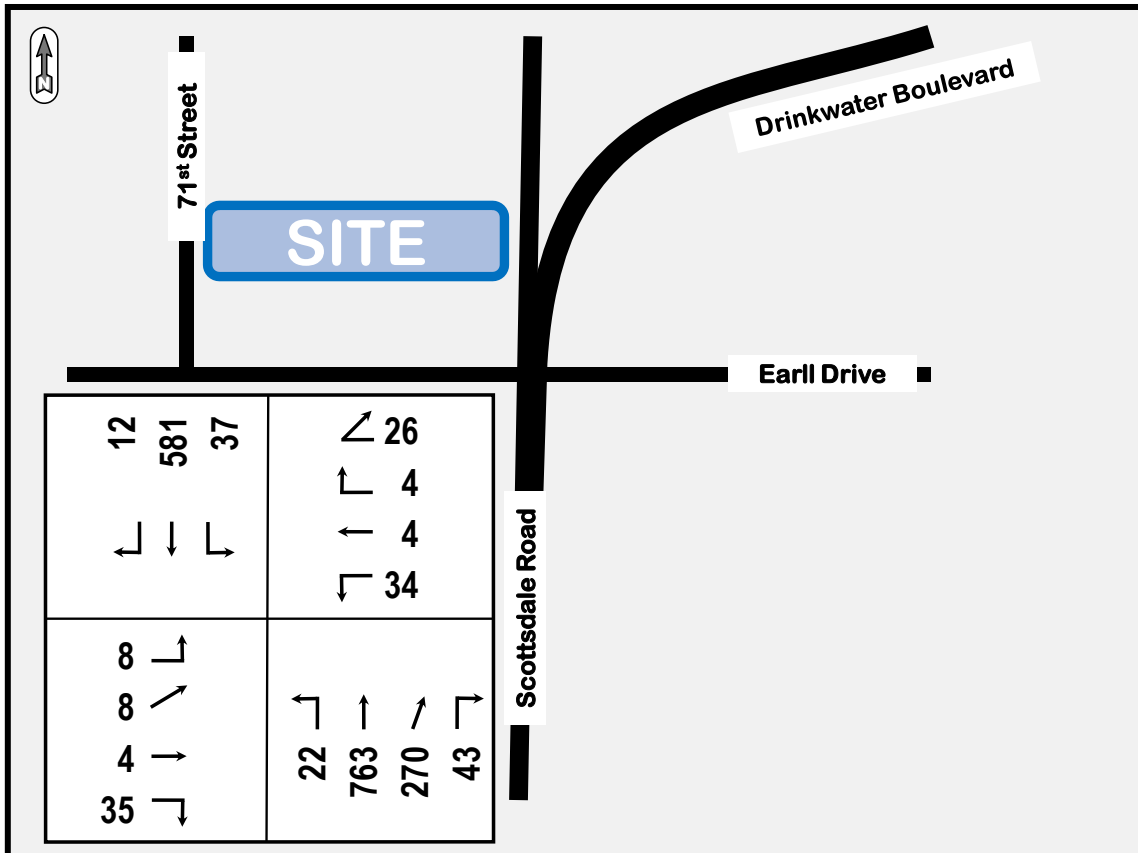


Figure 10: 2022 Adjusted AM Peak Hour Turning Volumes



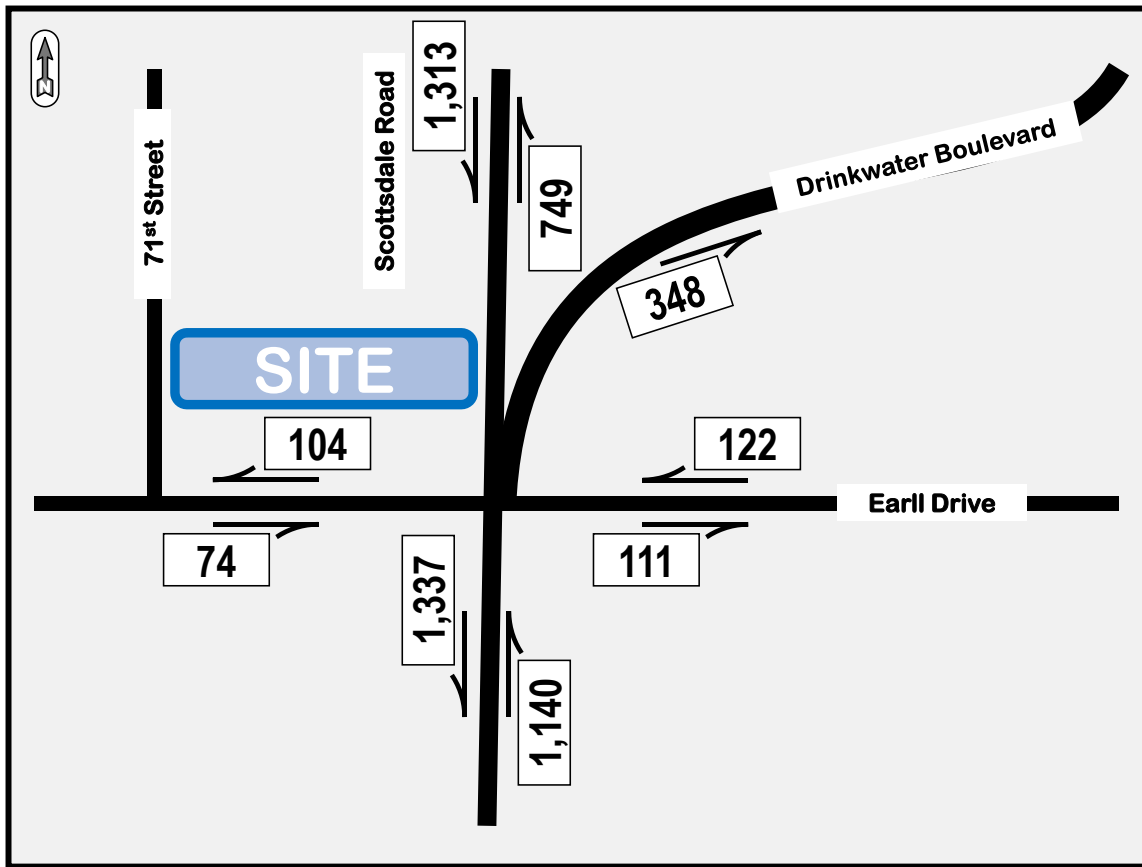


Figure 11: 2022 Adjusted PM Peak Hour Approach and Departure Volumes

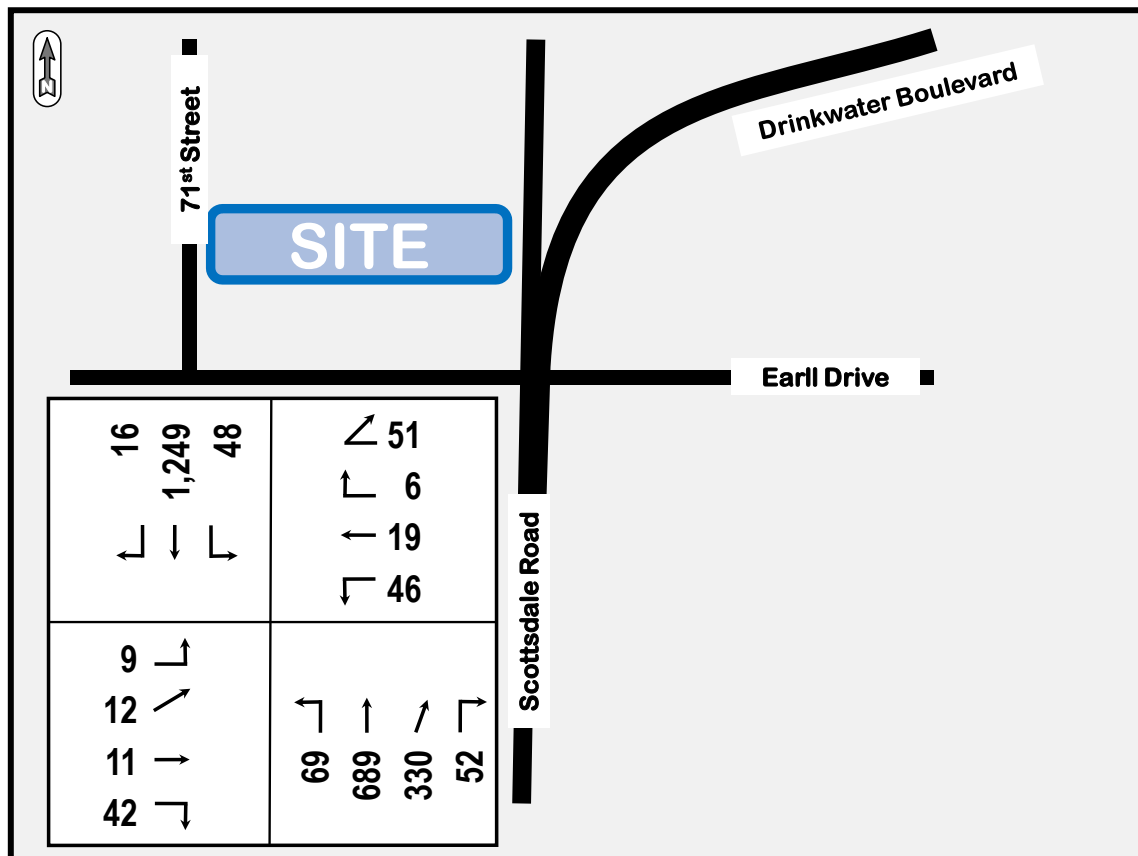


Figure 12: 2022 Adjusted PM Peak Hour Turning Volumes

### Ambient 2024 Traffic Volume

The 3202 Scottsdale apartments are anticipated to be occupied in 2024. The City of Scottsdale estimates that traffic volumes will increase 3% exponentially annually. Therefore, each turning movement was increased by 1.03<sup>2</sup>. **Figure 13** through **Figure 17** respectively provide the day approach and departure volumes, the morning approach and departure volumes, the morning turning movement volumes, the evening approach and departure volumes, and the evening turning movement volumes

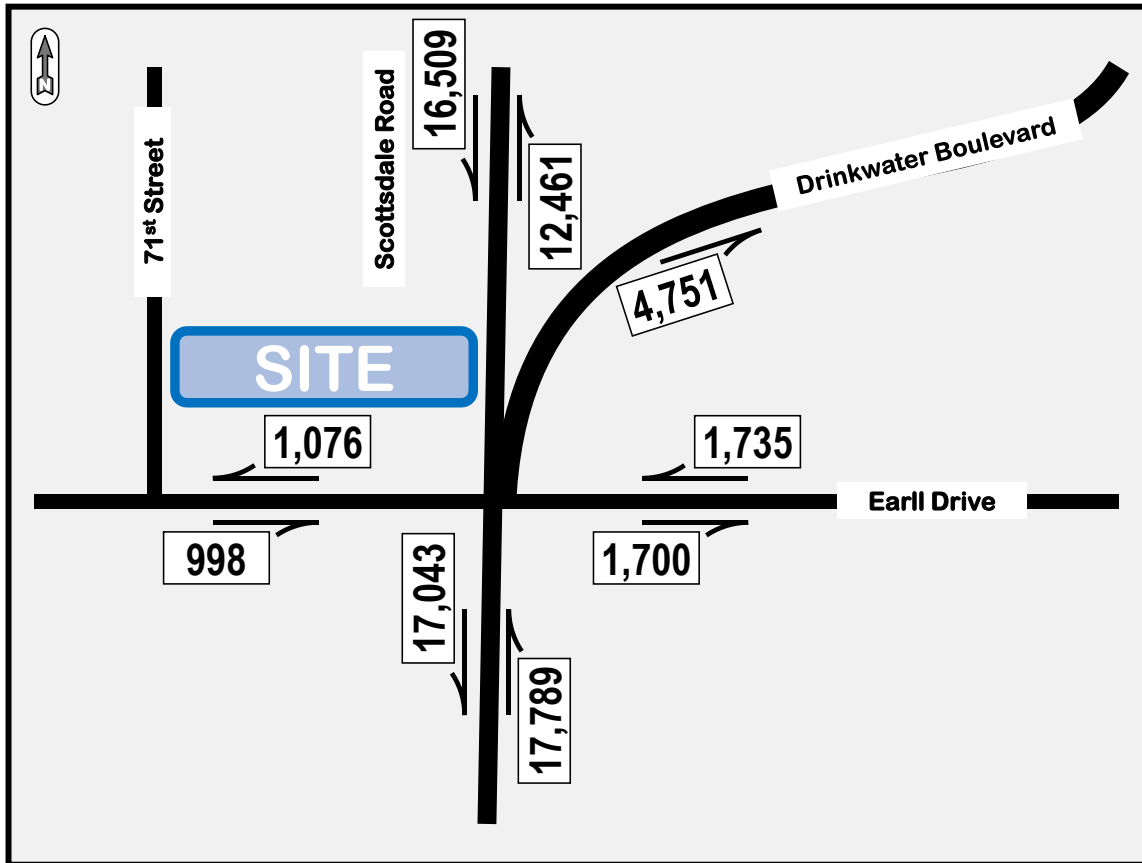


Figure 13: 2024 Day Approach and Departure Volumes

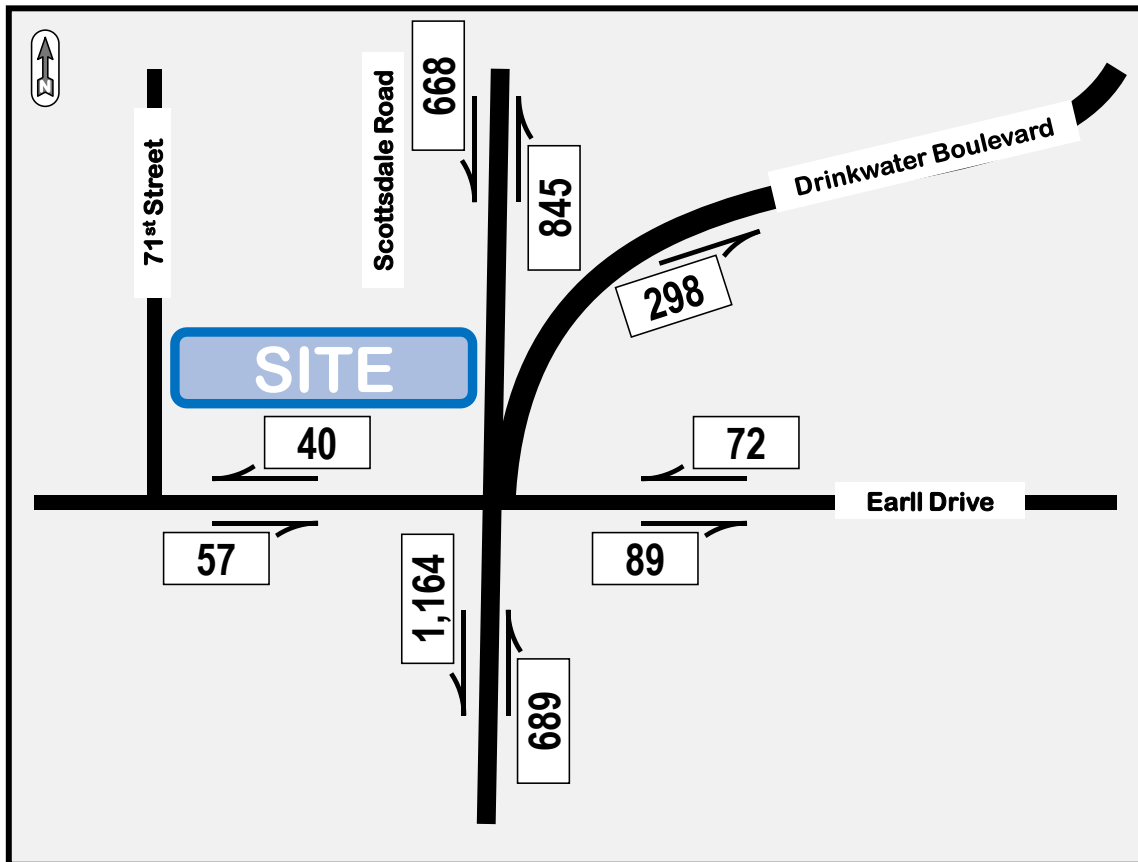


Figure 14: 2024 AM Peak Hour Approach and Departure Volumes

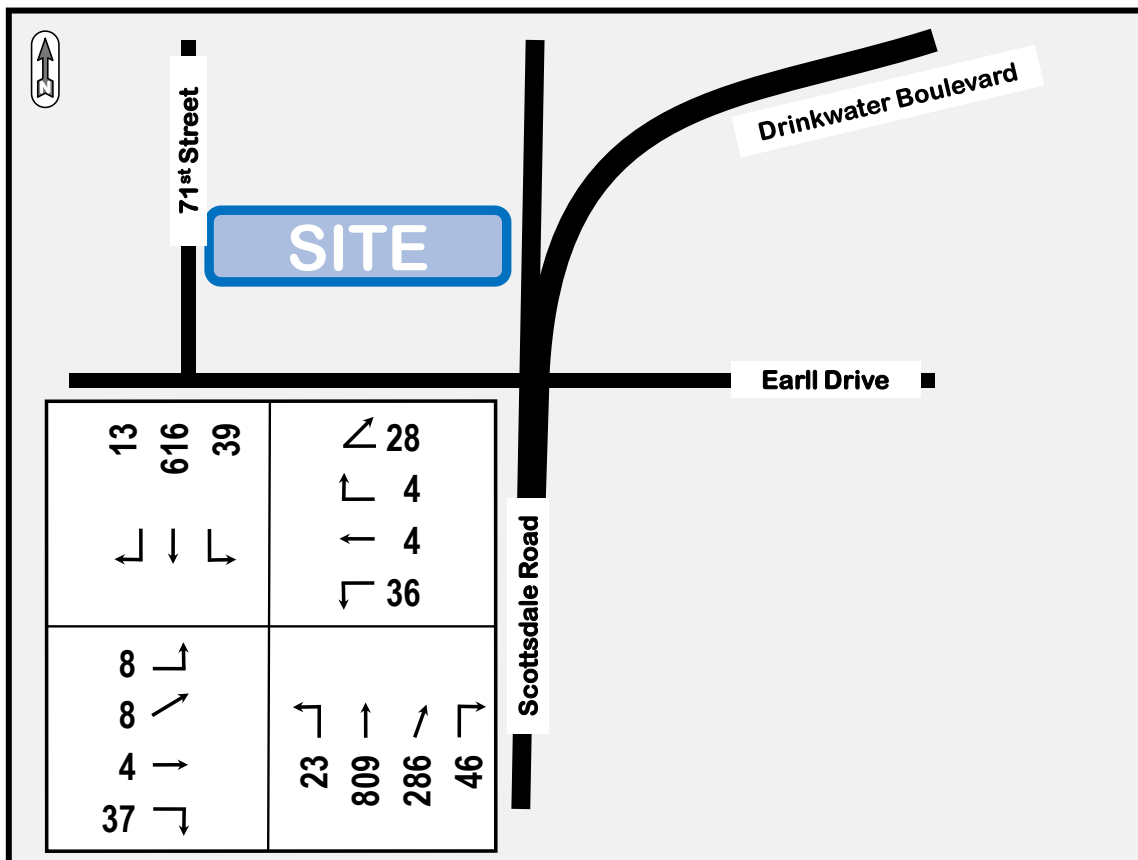


Figure 15: 2024 AM Peak Hour Turning Movement Volumes

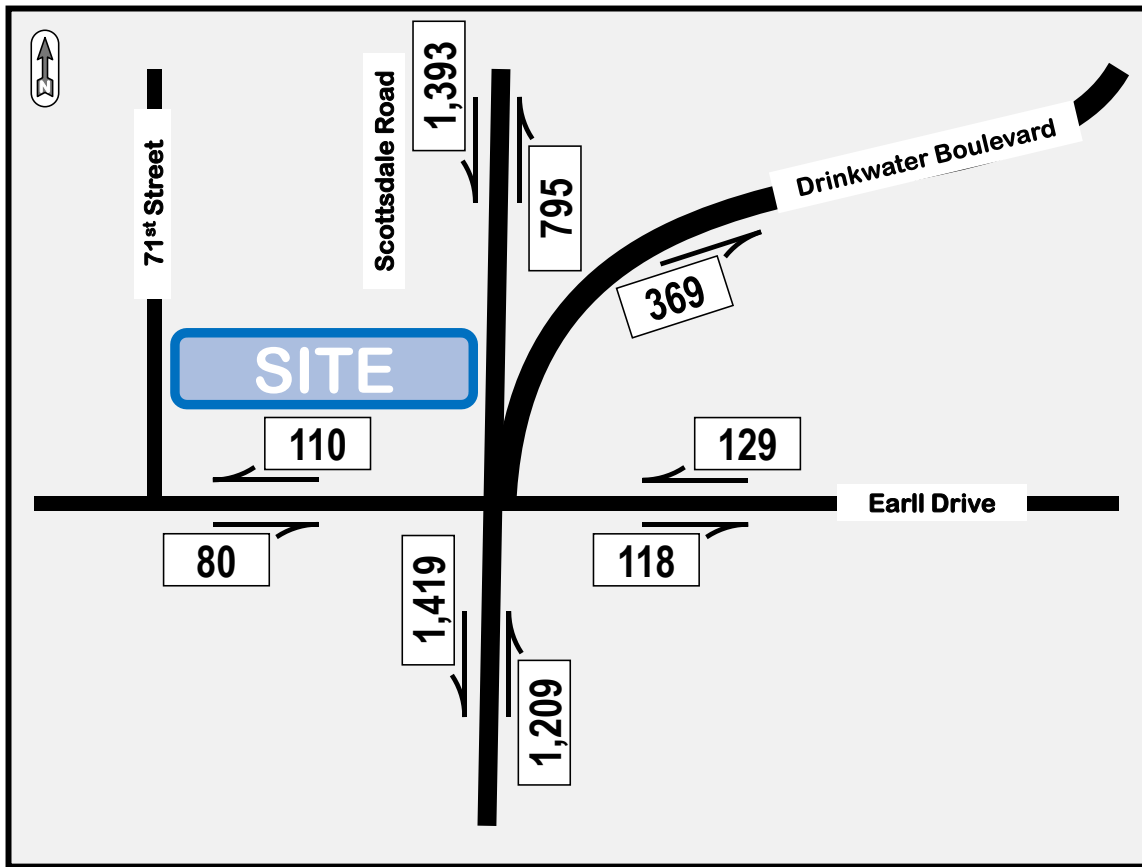


Figure 16: 2024 PM Peak Hour Approach and Departure Volumes

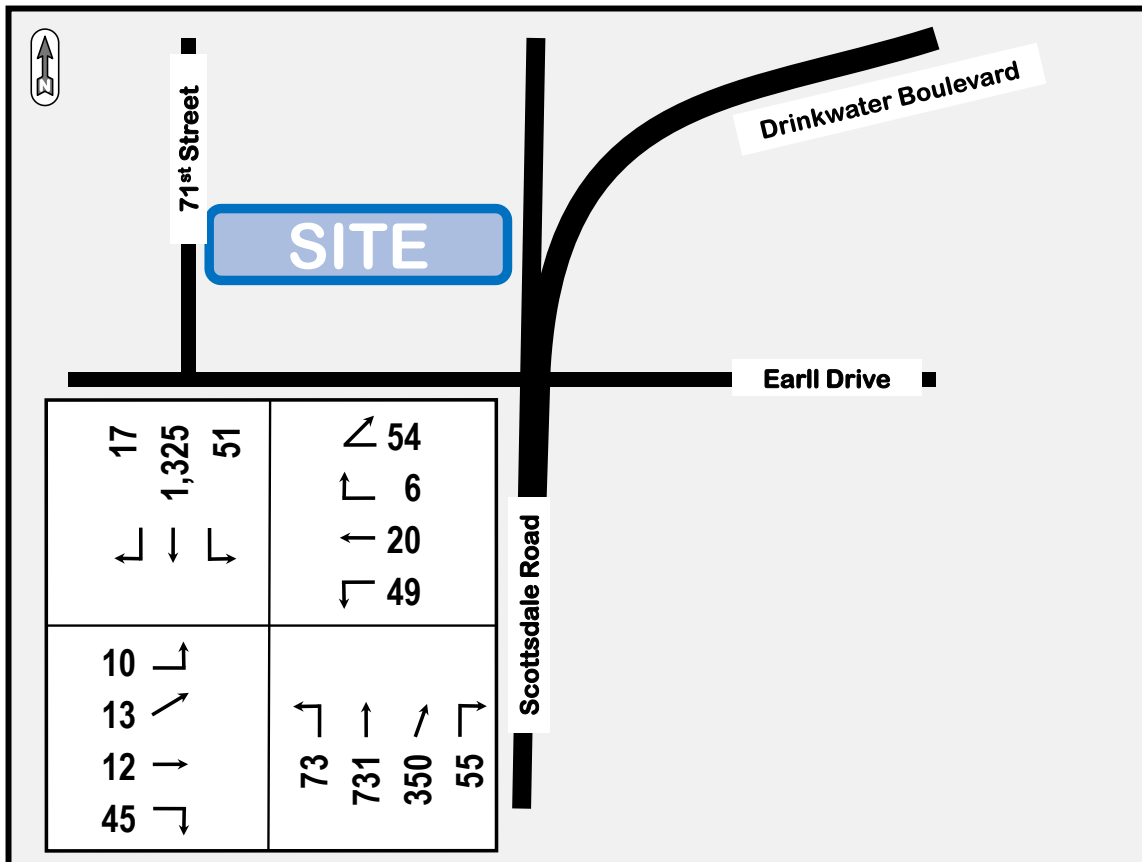


Figure 17: 2024 PM Peak Hour Turning Movement Volumes

### ***Proposed 3202 Scottsdale Estimated Trip Generation***

The estimated trip generation for the 3202 Scottsdale property was determined through the procedures and data contained within the Institute of Transportation Engineers *Trip Generation Manual, 11<sup>th</sup> Edition*, published in 2021. This document provides traffic volume data from existing developments throughout the United States and Canada, from 1980 through 2020, that can be utilized to estimate trips from proposed developments. The traffic data are provided for 179 land use categories separated into 10 major land use categories. The estimated traffic volume is dependent upon independent variables defined by the characteristics and size of each land use category. Data are typically provided for five (5) weekday time periods and four (4) weekend time periods.

As the proposed building will consist of eight (8) floors, the Multifamily Mid-rise (221) land use code was utilized.

**Table 5** provides the summary of the estimated trip generation for the proposed apartments on the 3202 Scottsdale Road property. **Attachment C** provides the complete trip generation calculations.

**Table 5: Estimated Trip Generation for Proposed 150 Apartment Homes**

	ENTERING	EXITING	TOTAL
<b><i>WEEKDAY DAILY</i></b>	458	458	916
AM PEAK HOUR STREET	16	47	63
AM PEAK HOUR GENERATOR	17	47	64
PM PEAK HOUR STREET	47	29	76
PM PEAK HOUR GENERATOR	49	32	81
<b><i>SATURDAY DAILY</i></b>	460	460	920
PEAK HOUR GENERATOR	36	42	78
<b><i>SUNDAY DAILY</i></b>	353	353	706
PEAK HOUR GENERATOR	43	26	69

The developer is also considering a 4,000-square-foot retail or athletic club building for the property. The *Trip Generation Manual, 11<sup>th</sup> Edition*, has three (3) categories for Retail (Shopping Center): Shopping Center 820 (more than 150,000 square feet), Shopping Plaza 821 (between 150,000 and 40,000 square feet), Strip Retail Plaza 822 (less than 40,000 square feet). Also, the Shopping Plaza, code 821, has two categories with and without supermarket. The category without supermarket was selected for this analysis.



**Table 6** summarizes the results for only the retail. **Table 7** summarizes the results for the apartments plus the retail.

**Table 6: Estimated Trip Generation for Potential 4,000-Square-Foot Retail**

	ENTERING	EXITING	TOTAL
<b>WEEKDAY DAILY</b>	135	135	270
AM PEAK HOUR STREET	4	3	7
AM PEAK HOUR GENERATOR	11	11	22
PM PEAK HOUR STREET	10	11	21
PM PEAK HOUR GENERATOR	89	76	165
<b>SATURDAY DAILY</b>	162*	162*	324*
PEAK HOUR GENERATOR	13	12	25
<b>SUNDAY DAILY</b>	86*	85*	171*
PEAK HOUR GENERATOR	9*	10*	19*

(\* Trip generation for code 821: between 150,000 and 40,000 square feet; as trip generation rates for these time periods are unavailable for code 822: less than 40,000 square feet. All other trip generation is for code 822: gross floor area less than 40,000 square feet.)

**Table 7: Estimated Trip Generation for Proposed Apartments Plus Retail**

	ENTERING	EXITING	TOTAL
<b>WEEKDAY DAILY</b>	593	593	1,186
AM PEAK HOUR STREET	20	50	70
AM PEAK HOUR GENERATOR	28	58	86
PM PEAK HOUR STREET	57	40	97
PM PEAK HOUR GENERATOR	138	108	246
<b>SATURDAY DAILY</b>	622*	622*	1,244*
PEAK HOUR GENERATOR	49	54	103
<b>SUNDAY DAILY</b>	439*	438*	877*
PEAK HOUR GENERATOR	52*	36*	88*

(\* Trip generation for code 821: between 150,000 and 40,000 square feet; as trip generation rates for these time periods are unavailable for code 822: less than 40,000 square feet. All other trip generation is for code 822: gross floor area less than 40,000 square feet.)

The developer is also considering a 4,000-square-foot athletic club in lieu of the retail building for the property. The *Trip Generation Manual, 11<sup>th</sup> Edition*, has two potential land use categories: Health Fitness Club 492, and Athletic Club 493. For this analysis, the Athletic Club was selected as it results in larger trip generation.

**Table 8** summarizes the results for only the athletic club, while **Table 9** summarizes the results for the apartments plus the athletic club.

**Table 8: Estimated Trip Generation for Potential 4,000-Square-Foot Athletic Club**

	ENTERING	EXITING	TOTAL
<b>WEEKDAY DAILY</b>	NA	NA	NA
AM PEAK HOUR STREET	8	5	13
AM PEAK HOUR GENERATOR	8	6	14
PM PEAK HOUR STREET	16	9	25
PM PEAK HOUR GENERATOR	16	9	25
<b>SATURDAY DAILY</b>	NA	NA	NA
PEAK HOUR GENERATOR	17	17	34
<b>SUNDAY DAILY</b>	NA	NA	NA
PEAK HOUR GENERATOR	NA	NA	NA

**Table 9: Estimated Trip Generation for Proposed Apartments Plus Athletic Club**

	ENTERING	EXITING	TOTAL
<b>WEEKDAY DAILY</b>	458	458	916
AM PEAK HOUR STREET	24	52	76
AM PEAK HOUR GENERATOR	25	53	78
PM PEAK HOUR STREET	63	38	101
PM PEAK HOUR GENERATOR	65	41	106
<b>SATURDAY DAILY</b>	460	460	920
PEAK HOUR GENERATOR	53	59	112
<b>SUNDAY DAILY</b>	353	353	706
PEAK HOUR GENERATOR	43	26	69

**Proposed 3202 Scottsdale Estimated Traffic Assignment**

Figure 18 provides the assumed trip distribution at the 3202 Scottsdale accesses. The primary access will be 71<sup>st</sup> Street, and the Scottsdale Road access prohibits left-turns-in and left-turns-out. This access will only be used for potential residents who are viewing the property, or potentially guests or deliveries. The estimated trip generation for the entire site as provided in Table 9 were assigned to the Scottsdale / Earll intersection. Figure 19 through Figure 23 provide the 3202 Scottsdale traffic volumes respectively for the day approach and departure, morning peak hour approach and departure, morning peak hour turning movements, evening peak hour approach and departure, and evening peak hour turning movements.

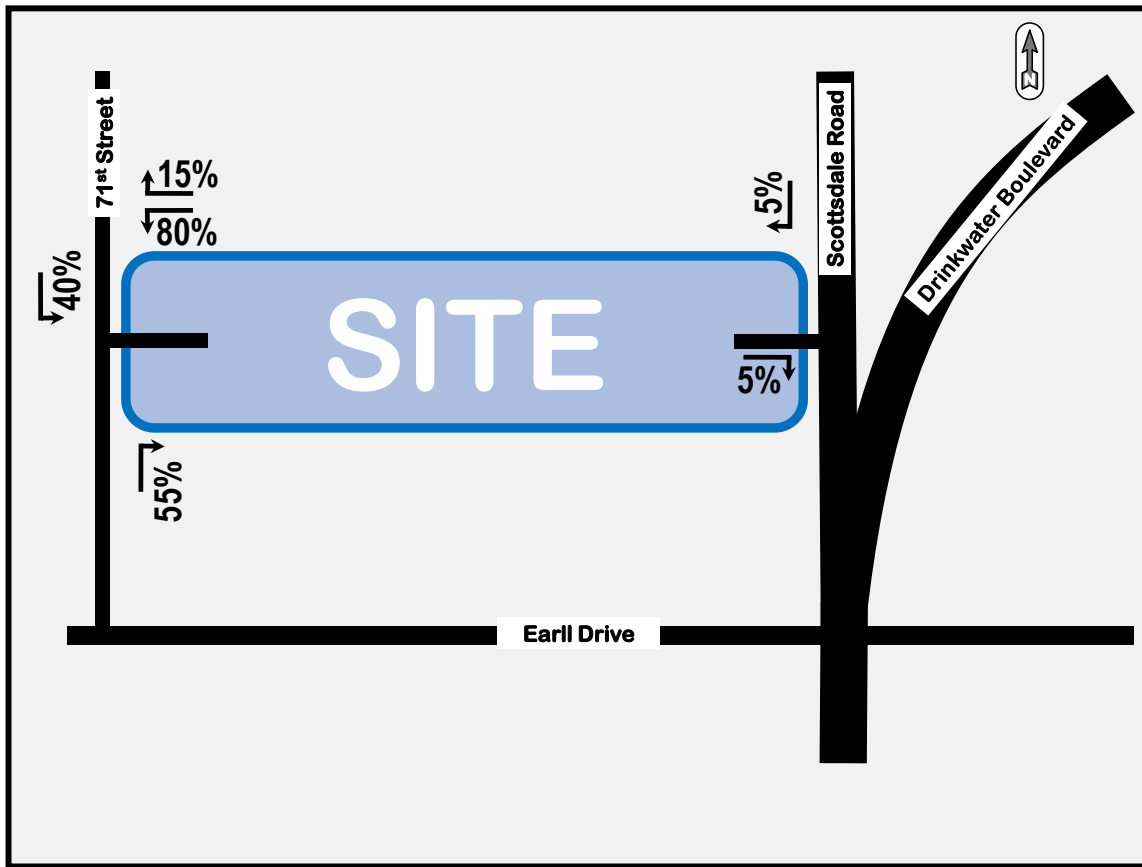


Figure 18: 3202 Scottsdale Access Trip Distribution

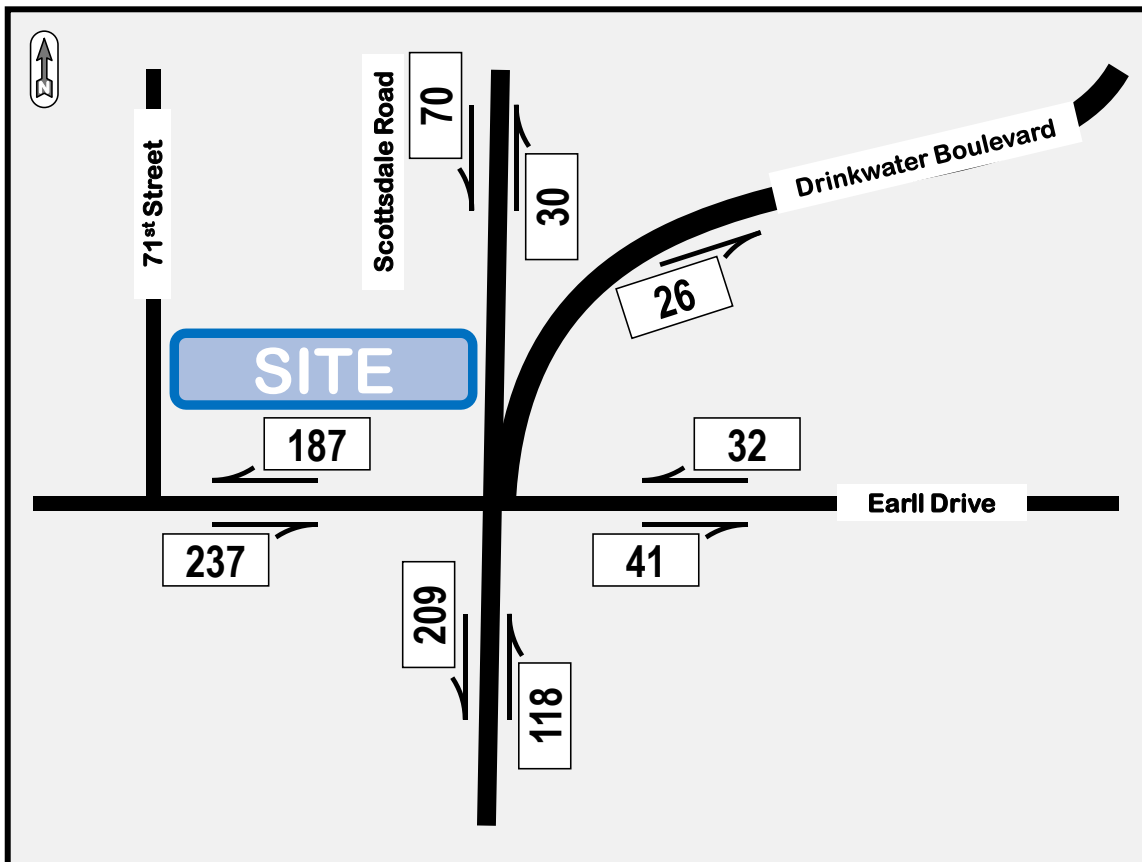


Figure 19: 3202 Scottsdale Approach and Departure Volumes Day



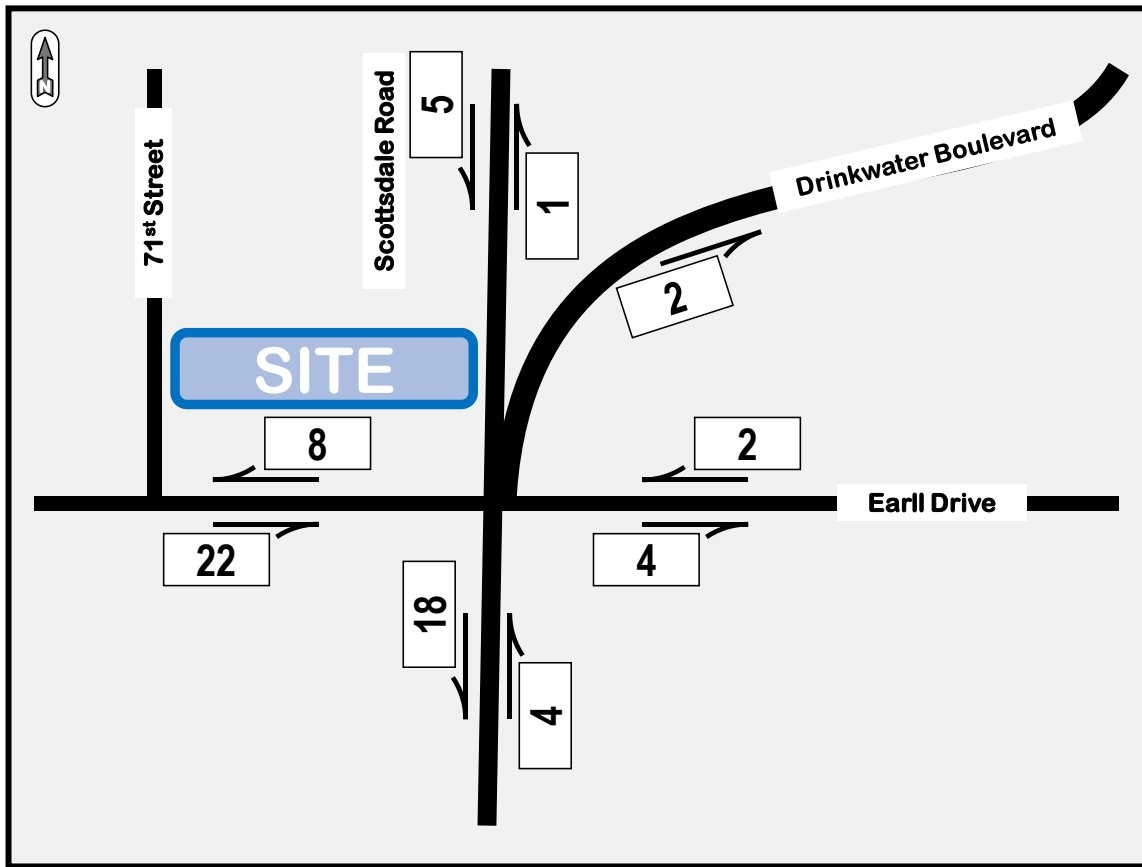


Figure 20: 3202 Scottsdale Approach and Departure Volumes Morning Peak Hour

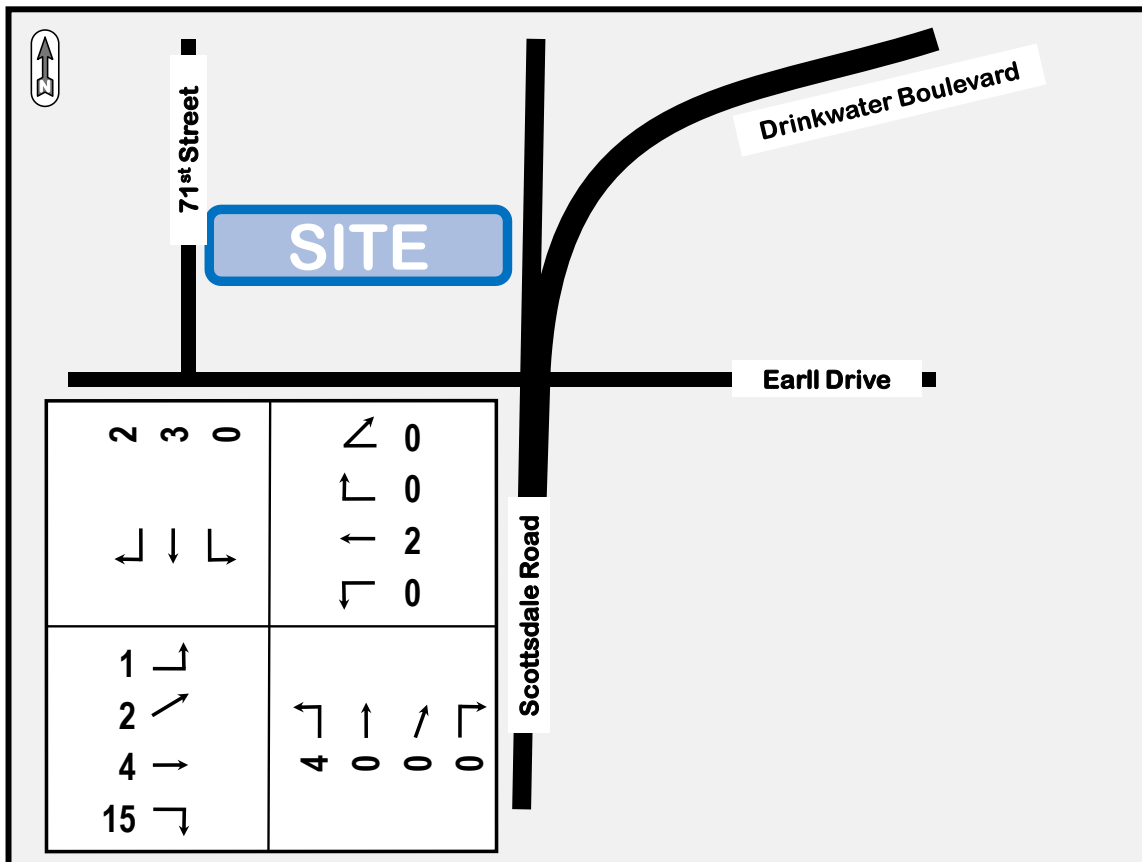


Figure 21: 3202 Scottsdale Turning Volumes Morning Peak Hour

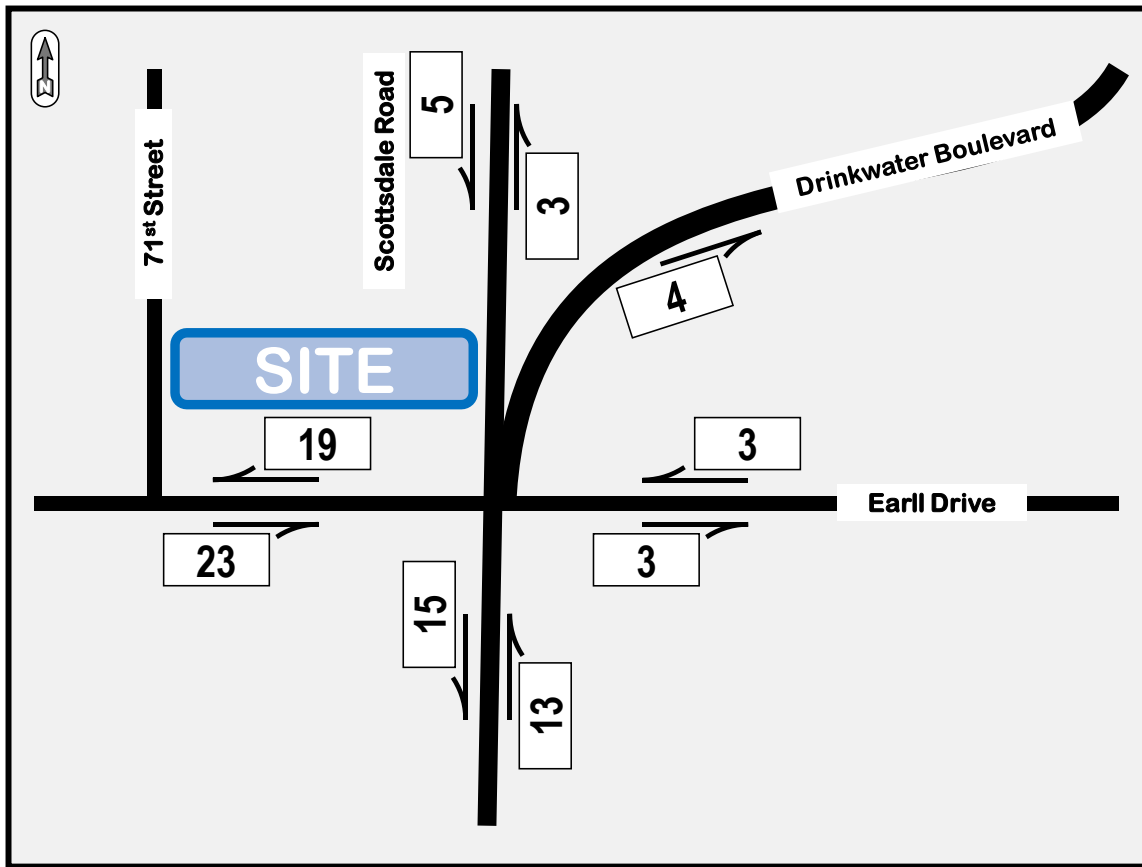


Figure 22: 3202 Scottsdale Approach and Departure Volumes Evening Peak Hour

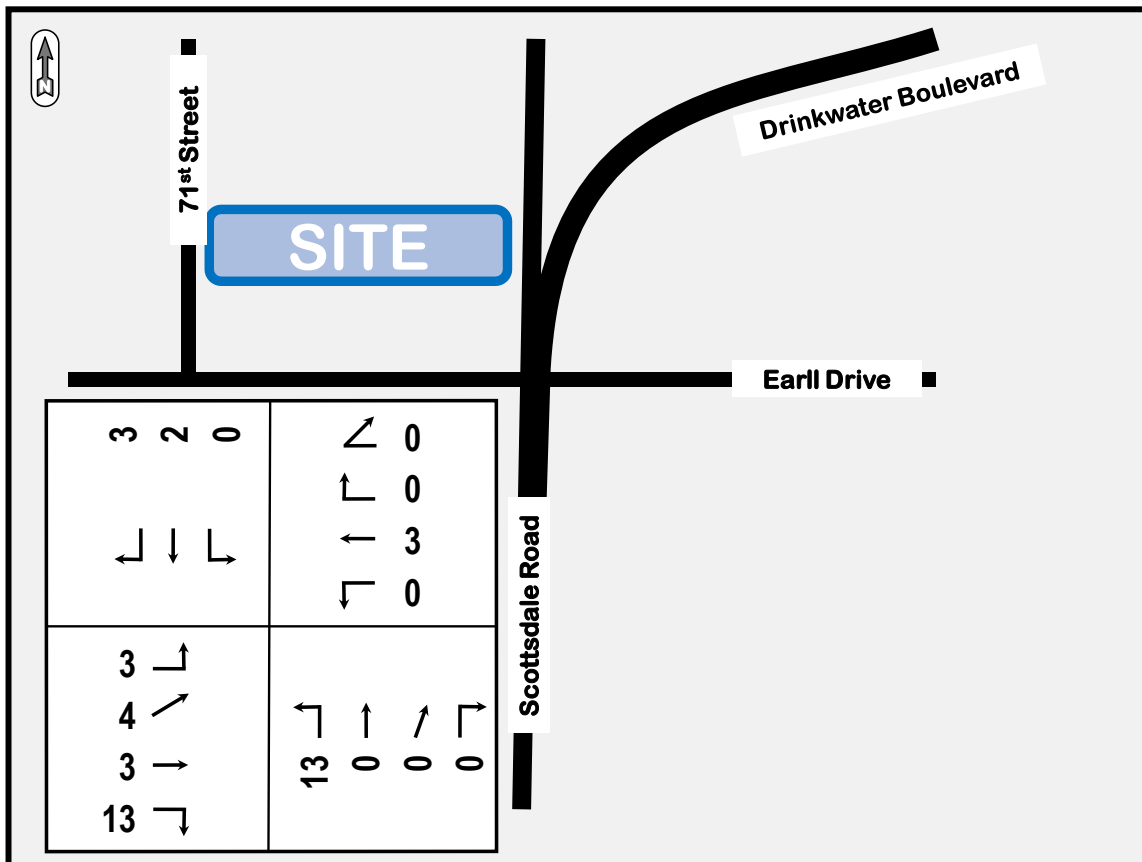


Figure 23: 3202 Scottsdale Turning Volumes Evening Peak Hour

The 2024 traffic volumes plus the 3202 Scottsdale traffic volumes are provided in **Figure 24** through **Figure 28** for the day approach and departure, morning peak hour approach and departure, morning peak hour turning movements, evening peak hour approach and departure, and evening peak hour turning movements.

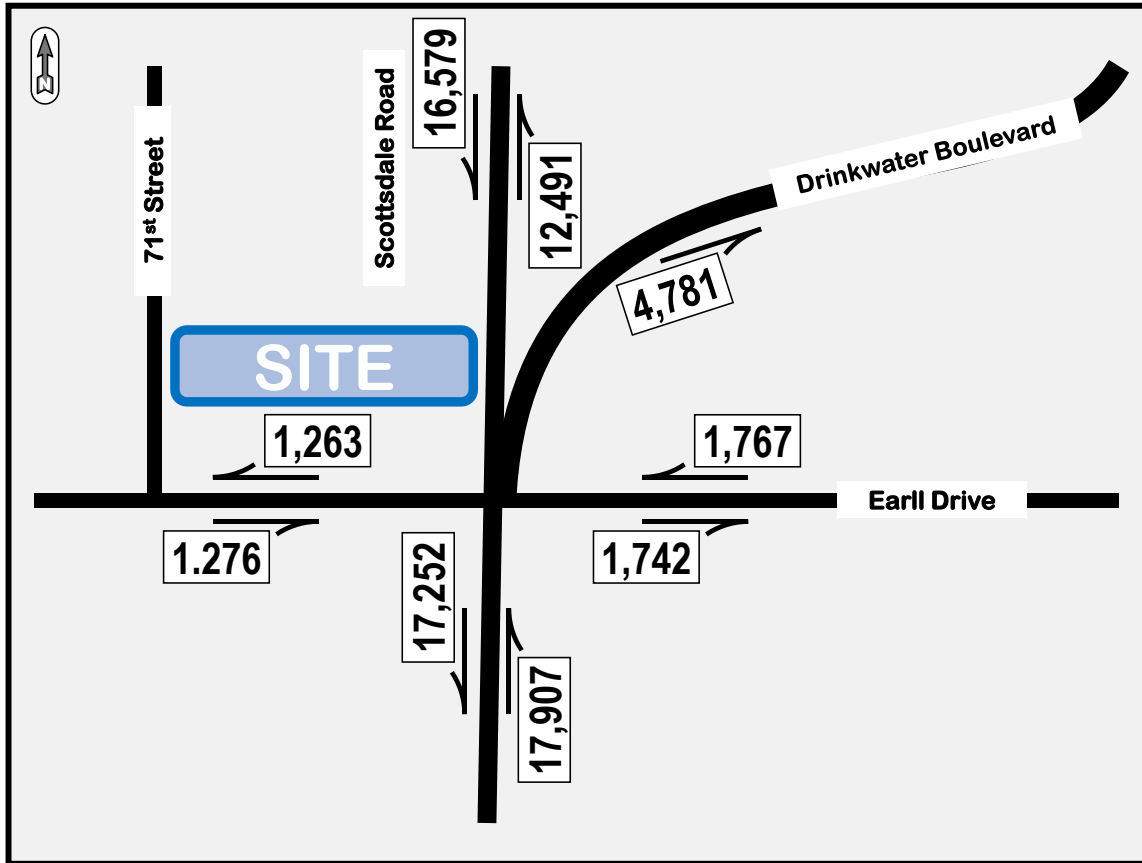


Figure 24: 2024 with 3202 Scottsdale Approach and Departure Volumes Day

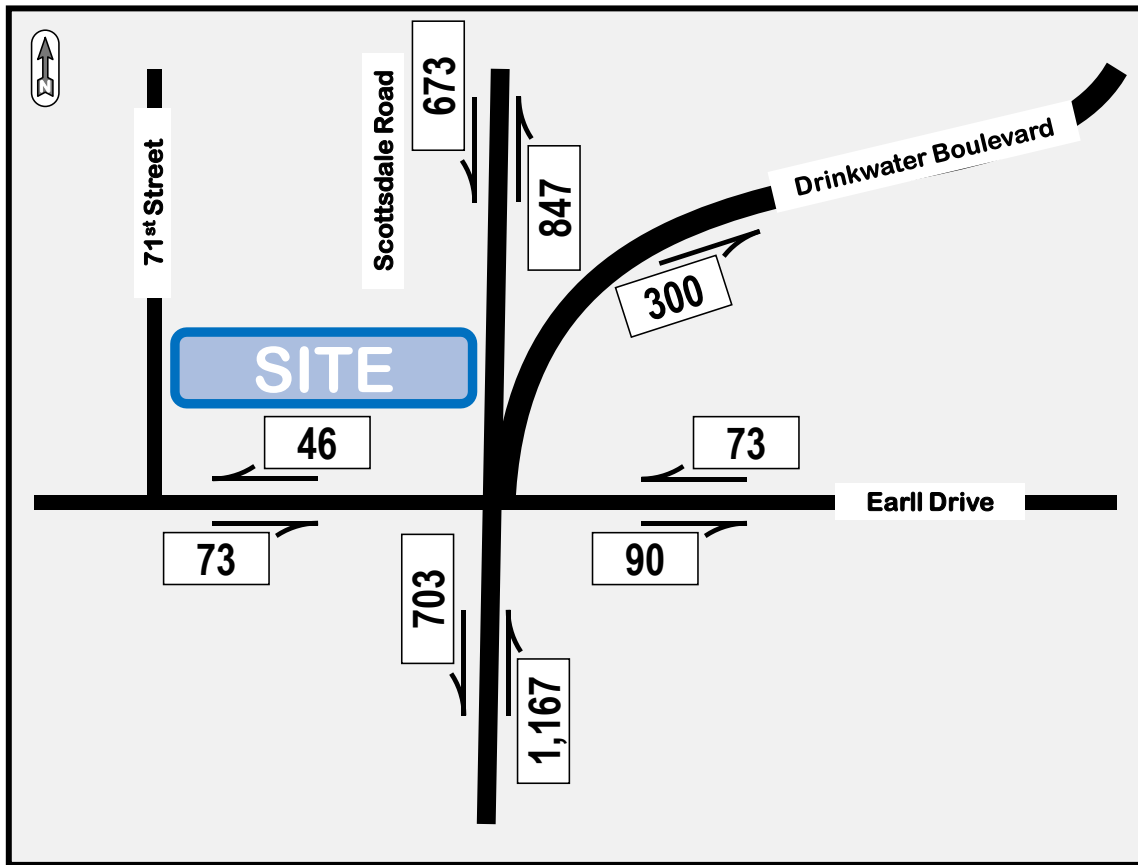


Figure 25: 2024 with 3202 Scottsdale Approach and Departure Volumes AM Peak

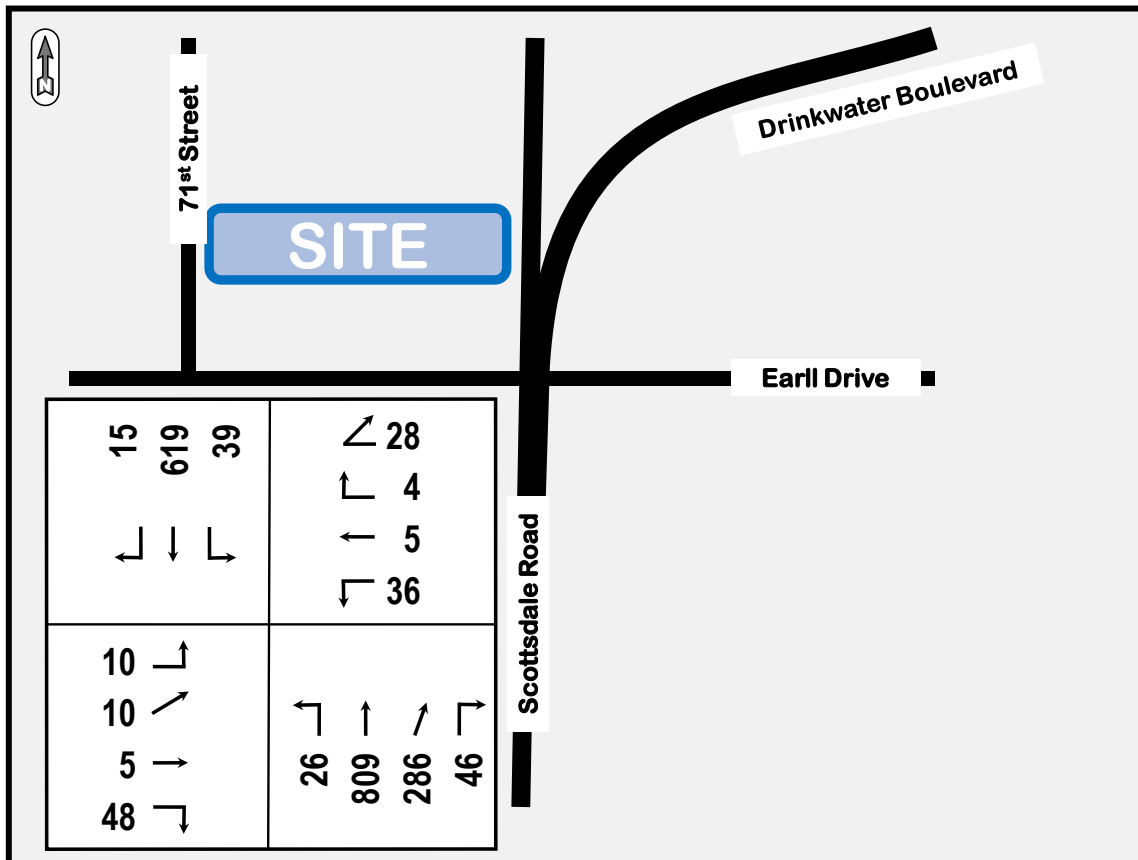


Figure 26: 2024 with 3202 Scottsdale Turning Movement Volumes AM Peak Hour

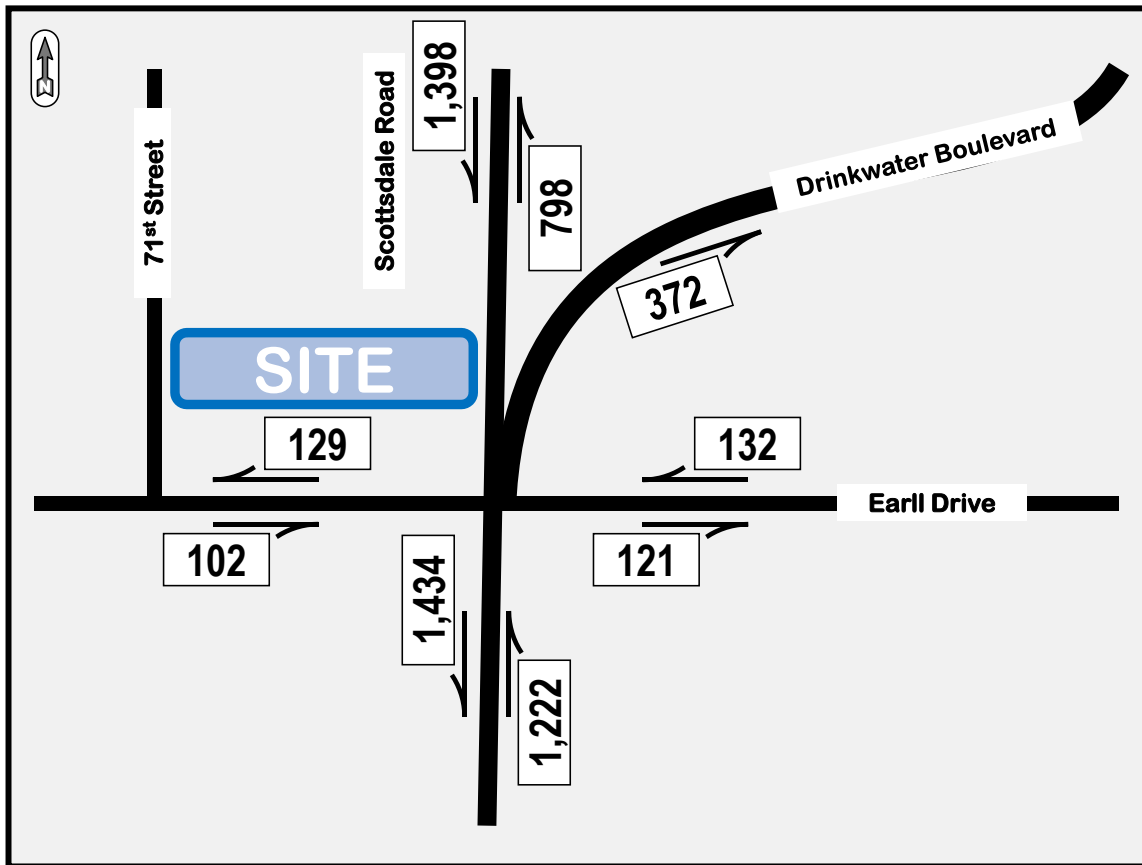


Figure 27: 2024 with 3202 Scottsdale Approach and Departure Volumes PM Peak

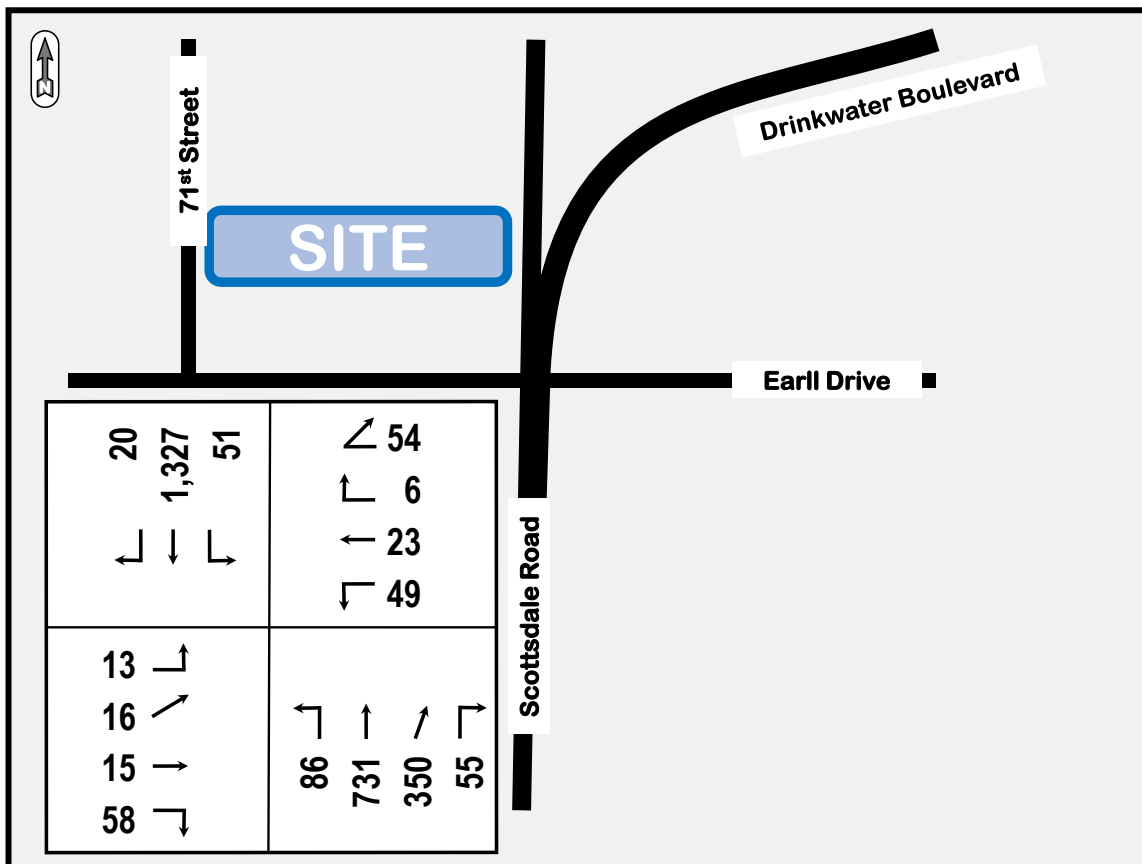


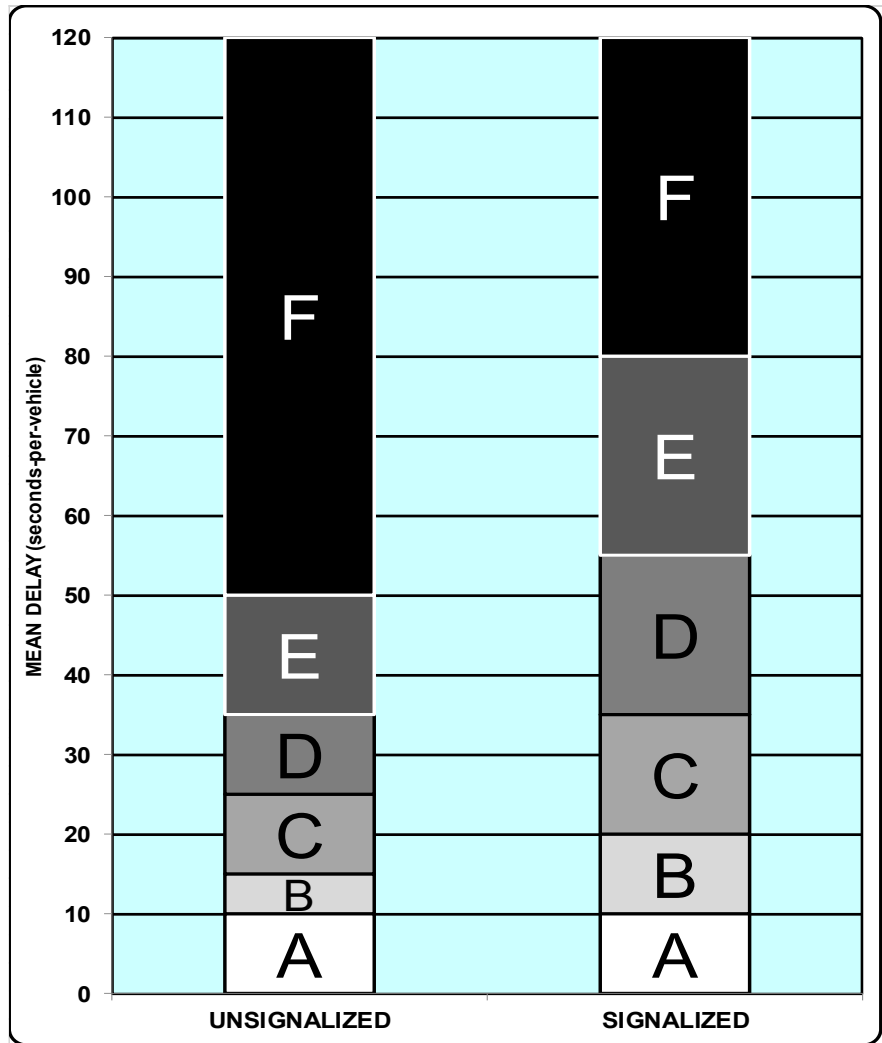
Figure 28: 2024 with 3202 Scottsdale Turning Movement Volumes PM Peak Hour

### Level-of-Service Analysis

The ability of a transportation system to transmit the transportation demand is characterized as its level-of-service (LOS). Level-of-service is a rating system from "A" (least delay) to "F" (most delay). Typically, levels-of-service "C" and "D" represent an optimal balance between traffic operation and street system expenditures.

The appropriate reference for level-of-service analysis and calculation is the *Highway Capacity Manual*, published by the Transportation Research Board. This manual considers average delay as the measure to determine level-of-service at intersections. For signalized intersections and multi-way stop intersections, the delay and level-of-service are calculated for the entire intersection, each approach, and each turning movement. For two-way stop-controlled intersections, the delay and level-of-service are determined only for each stopped approach and for left-turns from the uncontrolled approach.

**Table 10: Intersection Level-of-Service Criteria**



**Table 10:** provides a diagram depicting level-of-service and delay criteria for intersections.

Synchro was utilized for these level-of-service analyses. The Scottsdale / Earll cycle length and phase lengths were provided by the City of Scottsdale, and are provided as **Appendix D.1**.

**Table 11** and **Table 12** provide the levels-of-service for the Scottsdale / Earll intersections for the peak hours for the adjusted existing 2022, ambient 2024, and 2024 with the 3202 Scottsdale conditions. The complete results are provided in **Appendix D.2** through **D.4**.

**Table 11: LOS – without and with 3202 Scottsdale – AM Peak Hour**

	ADJUSTED 2022		AMBIENT 2024		2024 WITH SITE	
	DELAY	LOS	DELAY	LOS	DELAY	LOS
Intersection	6.4	A	6.5	A	7.0	A
Northbound	3.7	A	3.9	A	4.3	A
Left	2.8	A	2.9	A	2.9	A
Through	3.9	A	4.1	A	4.5	A
Right	3.9	A	4.1	A	4.5	A
Southbound	2.6	A	2.7	A	2.9	A
Left	4.8	A	5.5	A	5.8	A
Through	2.4	A	2.4	A	2.6	A
Right	2.4	A	2.4	A	2.6	A
Eastbound	26.6	C	26.3	C	26.6	C
Left	40.6	D	40.5	D	41.5	D
Through	22.6	C	22.3	C	22.6	C
Right	22.6	C	22.3	C	22.6	C
Westbound	46.4	D	46.5	D	46.6	D
Left	45.4	D	45.9	D	46.3	D
Through	37.2	D	37.2	D	37.4	D
Right	47.7	D	47.6	D	47.7	D

**Table 12: LOS – without and with 3202 Scottsdale – PM Peak Hour**

	ADJUSTED 2022		AMBIENT 2024		2024 WITH SITE	
	DELAY	LOS	DELAY	LOS	DELAY	LOS
Intersection	9.0	A	9.7	A	10.7	<b>B</b>
Northbound	4.8	A	5.4	A	6.1	A
Left	11.7	B	15.8	B	21.2	<b>C</b>
Through	5.5	A	6.0	A	6.4	A
Right	1.3	A	1.3	A	1.4	A
Southbound	5.6	A	6.1	A	6.4	A
Left	1.3	A	6.6	A	6.9	A
Through	5.9	A	6.0	A	6.4	A
Right	5.5	A	6.0	A	6.4	A
Eastbound	26.4	C	29.1	C	32.6	C
Left	35.0	D	34.8	<b>C</b>	34.8	C
Through	25.2	C	28.3	C	32.3	C
Right	25.2	C	28.3	C	32.3	C
Westbound	48.7	D	49.0	D	51.7	D
Left	56.1	E	56.9	E	62.3	E
Through	35.3	D	35.0	D	34.8	<b>C</b>
Right	39.4	D	39.0	D	38.3	D

### Left-Turn Arrow Analysis

City of Scottsdale Transportation and Streets has criteria for determining conditions that warrant left-turn arrows. These criteria are provided in **Table 13**.

**Table 13: City of Scottsdale Left-Turn Arrow Criteria**

- Peak hour traffic volume: One (1) hour of left turn and opposing through volumes surpass respective threshold volumes listed in **Table 3** below.

**Table 3 – Peak Hour Volume Thresholds for Left Turn Phasing**

Peak Left Turn Volume Exceeds	Peak Hour Opposing Volume Exceeds	
	1 lane	2 or more lanes
75	800	1000
100	750	900
150	600	800
200	500	650
300	400	550
400	200	350

- Peak hour delay: An intersection capacity analysis determines that left turn phasing is needed to provide a minimal level of service (LOS) of "D" for a specific movement or the entire intersection.
  - Note: Judgement should be exercised in this decision process. Although protected and permitted phasing may greatly enhance the level of service for a left turn movement, it may greatly diminish the level of service for the entire intersection and installation may not be desirable based on this warrant.
- Collision experience: there are five (5) or more accidents in a given approach during a 12-month period that may have been prevented by left turn phasing.

Local conditions may be an overriding factor as to whether or not left turn phasing is appropriate.

These criteria were utilized to determine if left-turn arrows were warranted at the Scottsdale / Earll intersection. The evening peak hour had the largest left-turn volume. The criteria were analyzed for the adjusted existing 2022 traffic volumes, only the 2024 traffic volumes, and the 2024 traffic volumes with 3202 Scottsdale. The traffic volume results are provided respectively in **Table 14**, **Table 15**, and **Table 16**.

**Table 14: Left-Turn Arrow Peak Hour Volume Criteria Analysis – Adjusted Existing 2022 Volume**

<u>LEFT-TURN DIRECTION</u>	<u>LEFT-TURN VOLUME</u>	<u>OPPOSING VOLUME</u>
Eastbound .....	21 .....	76
Westbound .....	46 .....	32
Northbound.....	69 .....	1,265
Southbound .....	48 .....	1,071



**Table 15: Left-Turn Arrow Peak Hour Volume Criteria Analysis – 2024 Volume**

<u>LEFT-TURN DIRECTION</u>	<u>LEFT-TURN VOLUME</u>	<u>OPPOSING VOLUME</u>
Eastbound .....	23 .....	80
Westbound .....	49 .....	35
Northbound .....	73 .....	1,342
Southbound .....	51 .....	1,136

**Table 16: Left-Turn Arrow Peak Hour Volume Analysis – 2024 With 3202 Scottsdale Volume**

<u>LEFT-TURN DIRECTION</u>	<u>LEFT-TURN VOLUME</u>	<u>OPPOSING VOLUME</u>
Eastbound .....	29 .....	83
Westbound .....	49 .....	44
Northbound .....	86 .....	1,347
Southbound .....	51 .....	1,136

The existing adjusted 2022 northbound left-turn traffic volumes are six (6) left-turning vehicles less than satisfying the peak hour traffic volume criteria. The ambient 2024 northbound left-turn traffic volumes are two (2) left-turning vehicles less than satisfying the peak hour traffic volume criteria. With the 3202 Scottsdale development and the existing 2022 volumes, the northbound left-turn volumes are seven (7) vehicles greater than the criteria. With the 3202 Scottsdale development and the ambient 2024 volumes, the northbound left-turn volumes are eleven (11) vehicles greater than the criteria.

However, as indicated in **Table 11** and **Table 12**, the level-of-service for the northbound left-turn is "A" adjusted existing 2022, and for 2024 without and with the 3202 Scottsdale development. Therefore, the peak hour delay criterion is not satisfied for the northbound left-turn arrow.

Additionally, on Tuesday, 26 July 2022, the intersection was observed from approximately 5:00 PM to 5:30 PM. During this time period, numerous vehicles accomplished the northbound left-turn. On one (1) occasion, four left-turning vehicles were in the northbound left-turn lane. On two (2) occasions, three (3) turning vehicles were in the northbound left-turn lane. The northbound left-turn queue never extended outside the left-turn lane. All left-turning vehicles arrived on a green light and accomplished the turn on the same green light. No northbound left-turning vehicles experienced a red light.

Also, as indicated in the collision discussion above, the maximum number of left-turn-head-on collisions involving northbound and southbound vehicles in one (1) year was one (1) collision. Therefore, the annual collision experience criterion is not satisfied for the northbound left-turn arrow.

As indicated in **Table 11** and **Table 12**, the level-of-service for the westbound left-turn is the adjusted for existing 2022 traffic volumes, only the 2024 traffic volumes, and 2024 traffic volumes with 3202 Scottsdale. A left-turn arrow is necessary for a conflict between left-turning vehicles and opposing through and right-turning vehicles. The calculated westbound left-turn delay at level-of-service "E" is not caused by eastbound through and right-turning traffic. The westbound left-turn poor level-of-service appears to be caused by short east-west green signal indications, as the north-south level-of-service is "A". However, the calculated delay for westbound left-turning vehicles may be a function of the delay calculation, and may not be representative of the actual experienced delay. The City of Scottsdale should observe and measure the delay for westbound left-turning vehicles to determine if the east-west green indication needs to be lengthened.



Appendix A  
Collision Analysis Data

2015

INCIDENT	LATITUDE	LONGITUDE	DATE	TIME	COLLISION MANNER	INJURY SEVERITY	TRAVEL DIRECTION	ACTION	VEHICLE	CONTROL	DISTRACTION	FIRST VIOLATION	SECOND VIOLATION
2940589	33.4840	-111.9262	02 / 11	4:32 PM	Left Turn	Suspected Minor Injury	Southbound	Turning Left	Car	Signal	Unknown	Failed to Stop for Red Signal	
2940589							Eastbound	Crossing Road	Pedestrian	Signal	Not Distracted	No Improper Action	
2940589							Eastbound	Crossing Road	Pedestrian	Signal	Not Distracted	No Improper Action	
2944770	33.4840	-111.9245	02 / 13	11:17 AM	Rear End	No Injury	Northwestbound	Backing	Car	No Controls	Unknown	Failed to Stop for Red Signal	
2944770							Eastbound	Straight	Car	No Controls	Unknown		
2947851	33.4840	-111.9262	04 / 04	3:36 PM	Left Turn	Suspected Minor Injury	Southbound	Turning Left	Car	Signal	Not Distracted	Failed to Stop for Red Signal	
2947851							Northbound	Straight	Car	Signal	Not Distracted	No Improper Action	
2947851							Westbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
2972624	33.4837	-111.9262	06 / 25	11:12 AM	Rear End	No Injury	Northbound	Straight	Car	Signal	Unknown		
2972624							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3000477	33.4840	-111.9262	09 / 26	12:51 PM	Angle	No Injury	Northbound	Straight	Car	Signal	Not Distracted	Disregarded Traffic Signal	
3000477							Eastbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3027714	33.4840	-111.9262	11 / 20	5:12 PM	Rear End	No Injury	Northbound	Slowing	Car	Signal	Not Distracted	Speed Too Fast For Conditions	
3027714							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3029003	33.4840	-111.9262	12 / 07	1:44 PM	Left Turn	No Injury	Westbound	Turning Left	Car	Signal	Not Distracted	Failed to Stop for Red Signal	
3029003							Southbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3033752	33.4839	-111.9262	12 / 16	12:06 PM	Rear End	No Injury	Northbound	Straight	Car	Signal	Not Distracted	Followed Too Closely	
3033752							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3663825	33.4840	-111.9262	02 / 12	11:41 AM	Sideswipe Opposite Direction	Suspected Minor Injury	Southbound	Crossing Road	Bicycle	Signal	Unknown	Rode in Opposing Lane	
3663825							Westbound	Turning Right	Car	Signal	Not Distracted	No Improper Action	
3663857	33.4835	-111.9262	12 / 29	8:16 PM	Sideswipe Same Direction	Possible Injury	Southbound	Turning Right	Car	No Controls	Not Distracted	Unsafe Lane Change	
3663857							Southbound	Other	Car	No Controls	Not Distracted		

2016

INCIDENT	LATITUDE	LONGITUDE	DATE	TIME	COLLISION MANNER	INJURY SEVERITY	TRAVEL DIRECTION	ACTION	VEHICLE	CONTROL	DISTRACTION	FIRST VIOLATION	SECOND VIOLATION
3054819	33.4837	-111.9262	02 / 07	7:45 PM	Rear End	Suspected Minor Injury	Southbound	Straight	Car	No Controls	Not Distracted	Speed Too Fast For Conditions	
3054819							Southbound	Straight	Car	No Controls	Unknown	Speed Too Fast For Conditions	
3061878	33.4834	-111.9262	02 / 26	7:33 PM	Rear End	Suspected Serious Injury	Southbound	Straight	Car	No Controls	Not Distracted	Speed Too Fast For Conditions	
3061878							Southbound	Stopped	Car	No Controls	Not Distracted		
3061886	33.4840	-111.9262	03 / 04	8:52 AM	Left Turn	Suspected Minor Injury	Southbound	Straight	Car	Signal	Not Distracted	Disregarded Traffic Signal	
3061886							Eastbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3069849	33.4836	-111.9262	03 / 28	4:00 PM	Rear End	No Injury	Northbound	Changing Lanes	Car	Signal	Unknown	Unsafe Lane Change	
3069849							Northbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3089557	33.4840	-111.9262	05 / 12	7:52 PM	Left Turn	No Injury	Westbound	Turning Left	Car	Signal	Not Distracted	Failed to Stop for Red Signal	
3089557							Southbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3096819	33.4826	-111.9262	06 / 02	5:29 PM	Rear End	Possible Injury	Southbound	Straight	Car	No Controls	Not Distracted	Speed Too Fast For Conditions	
3096819							Southbound	Stopped	Truck	No Controls	Not Distracted	No Improper Action	
3098882	33.4833	-111.9262	06 / 11	5:55 PM	Rear End	No Injury	Southbound	Straight	Car	No Controls	Not Distracted	Speed Too Fast For Conditions	
3098882							Southbound	Straight	Car	No Controls	Not Distracted		
3108672	33.4836	-111.9262	07 / 06	1:21 PM	Rear End	No Injury	Southbound	Changing Lanes	Car	Signal	Unknown	Speed Too Fast For Conditions	
3108672							Southbound	Stopped	Car	Signal	Unknown	No Improper Action	
3120189	33.4832	-111.9262	08 / 12	3:04 PM	Single Vehicle	No Injury	Eastbound	Straight	Car	No Controls	Outside Vehicle		
3137834	33.4840	-111.9262	09 / 15	9:29 PM	Left Turn	No Injury	Northbound	Straight	Truck	Signal	Unknown		
3137834							Westbound	Turning Left	Car	Signal	Unknown		
3137847	33.4839	-111.9262	09 / 23	8:14 PM	Sideswipe Same Direction	No Injury	Northbound	Turning Right	Car	Signal	Unknown	Unsafe Lane Change	
3137847							Northbound	Straight	Car	Signal	Hands Free Device	No Improper Action	
3147097	33.4847	-111.9262	10 / 07	12:17 PM	Rear End	No Injury	Southbound	Straight	Car	Signal	Other Device	Speed Too Fast For Conditions	
3147097							Southbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3147097							Southbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3147252	33.4850	-111.9262	10 / 14	6:40 PM	Rear End	No Injury	Southbound	Straight	Car	Signal	Other Inside Vehicle	Speed Too Fast For Conditions	
3147252							Southbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3147252							Southbound	Stopped	Car	Signal	Not Distracted		
3148355	33.4846	-111.9262	10 / 10	9:28 AM	Sideswipe Same Direction	No Injury	Southbound	Changing Lanes	Car	No Controls	Unknown	No Improper Action	
3148355							Southbound	Changing Lanes	Car	No Controls	Unknown		
3152624	33.4826	-111.9262	11 / 07	10:31 PM	Rear End	Suspected Minor Injury	Southbound	Straight	Car	No Controls	Not Distracted	Speed Too Fast For Conditions	
3152624							Southbound	Slowing	Car	No Controls	Not Distracted	No Improper Action	
3161977	33.4840	-111.9262	11 / 08	9:49 AM	Angle	No Injury	Northbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3161977							Eastbound	Straight	Car	Signal	Unknown		
3171891	33.4840	-111.9262	12 / 01	11:54 AM	Sideswipe Same Direction	No Injury	Northbound	Turning Right	Car	Signal	Not Distracted	Made Improper Turn	
3171891							Northbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3171944	33.4831	-111.9262	12 / 06	9:50 AM	Rear End	No Injury	Northbound	Straight	Car	No Controls	Unknown	Speed Too Fast For Conditions	
3171944							Northbound	Straight	Car	No Controls	Not Distracted		
3174084	33.4846	-111.9262	12 / 11	6:31 PM	Rear End	Suspected Minor Injury	Southbound	Slowing	Car	Signal	Unknown	Speed Too Fast For Conditions	
3174084							Southbound	Stopped	Car	Signal	Unknown	No Improper Action	
3174084							Southbound	Stopped	Car	Signal	Unknown		

2017

INCIDENT	LATITUDE	LONGITUDE	DATE	TIME	COLLISION MANNER	INJURY SEVERITY	TRAVEL DIRECTION	ACTION	VEHICLE	CONTROL	DISTRACTION	FIRST VIOLATION	SECOND VIOLATION
3184955	33.4840	-111.9262	01 / 17	3:30 PM	Left Turn	Suspected Minor Injury	Northbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3184955							Eastbound	Straight	Car	Signal	Unknown	No Improper Action	
3184955							Westbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3191670	33.4854	-111.9262	01 / 20	9:40 AM	Sideswipe Same Direction	No Injury	Southbound	Changing Lanes	Car	No Controls	Not Distracted	Speed Too Fast For Conditions	
3191670							Southbound	Straight	Car	No Controls	Not Distracted	No Improper Action	
3191699	33.4840	-111.9262	01 / 31	10:49 AM	Left Turn	Possible Injury	Southbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3191699							Westbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3212565	33.4845	-111.9262	03 / 29	1:19 PM	Rear End	No Injury	Northbound	Straight	Truck	No Controls	Not Distracted	Speed Too Fast For Conditions	
3212565							Northbound	Stopped	Car	No Controls	Not Distracted	No Improper Action	
3212579	33.4840	-111.9262	03 / 29	9:52 AM	Left Turn	Suspected Minor Injury	Southbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3212579							Northbound	Turning Left	Car	Signal	Unknown	Failed to Stop for Red Signal	
3228241	33.4840	-111.9262	05 / 05	1:55 PM	Left Turn	No Injury	Westbound	Turning Left	Car	Signal	Unknown	Failed to Stop for Red Signal	
3228241							Eastbound	Straight	Car	Signal	Unknown	No Improper Action	
3249282	33.4842	-111.9262	06 / 29	12:20 PM	Rear End	No Injury	Southbound	Changing Lanes	Car	Signal	Outside Vehicle		
3249282							Southbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3250924	33.4840	-111.9262	07 / 06	9:21 AM	Angle	Suspected Minor Injury	Northbound	Straight	Car	Signal	Not Distracted	Ran Stop Sign	
3250924							Westbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3255982	33.4844	-111.9262	07 / 20	5:41 PM	Sideswipe Same Direction	No Injury	Southbound	Changing Lanes	Car	Signal	Not Distracted	Unsafe Lane Change	
3255982							Southbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3261489	33.4840	-111.9261	07 / 27	2:26 PM	Angle	Suspected Minor Injury	Northbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3261489							Eastbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3262059	33.4840	-111.9262	08 / 02	1:29 PM	Left Turn	No Injury	Northbound	Straight	Car	Signal	Outside Vehicle	Disregarded Traffic Signal	
3262059							Westbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3265701	33.4856	-111.9262	08 / 12	9:44 AM	Left Turn	Suspected Minor Injury	Westbound	Turning Left	Car	Stop Signs	Not Distracted	Failed to Stop for Red Signal	
3265701							Southbound	Slowing Straight	Car	No Controls	Unknown	No Improper Action	
3265721	33.4840	-111.9262	08 / 04	11:46 AM	Left Turn	No Injury	Westbound	Turning Left	Car	Signal	Hands Free Device		
3265721							Northbound	Straight	Car	Signal	Unknown		
3270171	33.4840	-111.9262	08 / 19	4:18 PM	Angle	No Injury	Northbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3270171							Westbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3277592	33.4840	-111.9262	09 / 05	11:02 AM	Left Turn	Suspected Serious Injury	Northbound	Straight	Car	Signal	Not Distracted	Disregarded Traffic Signal	
3277592							Westbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3277811	33.4840	-111.9262	09 / 05	1:57 PM	Left Turn	Suspected Serious Injury	Northbound	Straight	Car	Signal	Not Distracted	Disregarded Traffic Signal	
3277811							Eastbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3277811							Westbound	Stopped	Car	Signal	Not Distracted	No Improper Action	

2018

INCIDENT	LATITUDE	LONGITUDE	DATE	TIME	COLLISION MANNER	INJURY SEVERITY	TRAVEL DIRECTION	ACTION	VEHICLE	CONTROL	DISTRACTION	FIRST VIOLATION	SECOND VIOLATION
3334975	33.4834	-111.9262	01 / 10	4:42 PM	Rear End	No Injury	Northbound	Straight	Car	Signal	Unknown	Speed Too Fast For Conditions	
3334975							Northbound	Changing Lanes	Car	Signal	Not Distracted	No Improper Action	
3338848	33.4840	-111.9262	01 / 19	3:26 PM	Angle	No Injury	Northbound	Straight	Unreported	Signal	Unknown	Disregarded Traffic Signal	
3338848							Westbound	Straight	Car	Signal	Unknown	No Improper Action	
3356855	33.4840	-111.9262	03 / 20	7:20 PM	Left Turn	No Injury	Southbound	Turning Left	Car	Signal	Not Distracted	Failed to Stop for Red Signal	
3356855							Northbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3358231	33.4840	-111.9262	03 / 27	11:28 AM	Left Turn	Possible Injury	Northbound	Straight	Car	Signal	Outside Vehicle	Disregarded Traffic Signal	
3358231							Westbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3358260	33.4838	-111.9262	03 / 28	3:06 PM	Rear End	Suspected Serious Injury	Northbound	Straight	Car	Signal	Not Distracted	Speed Too Fast For Conditions	
3358260							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3359567	33.4840	-111.9262	03 / 26	8:47 AM	Head On	No Injury	Northbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3359567							Westbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3369194	33.4840	-111.9262	04 / 23	4:46 PM	Angle	Suspected Minor Injury	Northbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3369194							Westbound	Straight	Car	Signal	Unknown	No Improper Action	
3386960	33.4856	-111.9262	06 / 08	3:05 PM	Rear End	No Injury	Southbound	Turning Left	Car	Stop Signs	Unknown	Made Improper Turn	
3386960							Southbound	Straight	Truck	No Controls	Unknown	No Improper Action	
3394925	33.4838	-111.9262	07 / 09	11:00 AM	Sideswipe Same Direction	No Injury	Southbound	Changing Lanes	Car	No Controls	Unknown	Speed Too Fast For Conditions	
3394925							Southbound	Stopped	Truck	No Controls	Not Distracted	No Improper Action	
3417055	33.4835	-111.9262	09 / 06	5:54 PM	Rear End	Possible Injury	Northbound	Straight	Car	Signal	Not Distracted	Speed Too Fast For Conditions	
3417055							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3417162	33.4836	-111.9262	09 / 09	7:17 PM	Rear End	No Injury	Northbound	Straight	Car	Signal	Unknown		
3417162							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3420985	33.4824	-111.9262	09 / 17	2:52 PM	Rear End	No Injury	Southbound	Straight	Car	No Controls	Unknown	Speed Too Fast For Conditions	
3420985							Southbound	Slowing	Car	No Controls	Not Distracted	No Improper Action	
3429204	33.4840	-111.9262	10 / 10	4:47 PM	Left Turn	Possible Injury	Westbound	Turning Left	Car	Signal	Outside Vehicle	Failed to Stop for Red Signal	
3429204							Southbound	Crossing Road	Car	Signal	Not Distracted		
3441522	33.4840	-111.9262	10 / 22	4:54 PM	Left Turn	Possible Injury	Westbound	Turning Left	Car	Signal	Not Distracted	Failed to Stop for Red Signal	
3441522							Eastbound	Crossing Road	Car	Signal	Not Distracted	No Improper Action	
3458363	33.4840	-111.9262	11 / 11	4:14 PM	Left Turn	Suspected Serious Injury	Southbound	Turning Left	Car	Signal	Unknown	Speed Too Fast For Conditions	
3458363							Eastbound	Other	Car	Signal	Not Distracted	No Improper Action	
3462230	33.4840	-111.9281	11 / 26	8:00 AM	Left Turn	No Injury	Westbound	Turning Left	Car	No Controls	Unknown	Improper Turn	
3462230							Eastbound	Straight	Car	No Controls	Not Distracted	No Improper Action	
3466743	33.4820	-111.9262	12 / 09	1:02 PM	Sideswipe Same Direction	Possible Injury	Northbound	Changing Lanes	Car	No Controls	Not Distracted	Unsafe Lane Change	
3466743							Northbound	Straight	Car	No Controls	Not Distracted		
3466757	33.4840	-111.9262	12 / 03	2:14 PM	Angle	Suspected Minor Injury	Northbound	Straight	Car	Signal	Not Distracted	Disregarded Traffic Signal	
3466757							Eastbound	Straight	Car	Signal	Not Distracted	No Improper Action	

2019

INCIDENT	LATITUDE	LONGITUDE	DATE	TIME	COLLISION MANNER	INJURY SEVERITY	TRAVEL DIRECTION	ACTION	VEHICLE	CONTROL	DISTRACTION	FIRST VIOLATION	SECOND VIOLATION
3504285	33.4840	-111.9262	02 / 03	12:21 AM	Left Turn	No Injury	Northbound	Straight	Car	Signal	Unknown	Failed to Stop for Red Signal	
3504285							Westbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3504491	33.4842	-111.9262	01 / 31	5:38 PM	Rear End	Suspected Minor Injury	Southbound	Straight	Car	Signal	Not Distracted	Unknown	
3504491							Southbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3504491							Southbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3512548	33.4840	-111.9262	03 / 03	12:56 PM	Left Turn	Suspected Minor Injury	Westbound	Turning Left	Car	Signal	Unknown	Failed to Stop for Red Signal	
3512548							Southbound	Straight	Car	Signal	Not Distracted		
3515463	33.4840	-111.9270	03 / 07	12:50 PM	Left Turn	No Injury	Eastbound	Straight	Car	No Controls	Outside Vehicle	No Improper Action	
3515463							Northbound	Turning Left	Car	No Controls	Not Distracted	No Improper Action	
3520632	33.4840	-111.9245	04 / 02	2:02 PM	Left Turn	No Injury	Westbound	Turning Left	Car	No Controls	Unknown		
3520632							Westbound	Straight	Car	No Controls	Unknown		
3521583	33.4840	-111.9262	04 / 21	3:25 AM	Single Vehicle	No Injury	Southbound	Straight	Car	No Controls	Unknown	Speed Too Fast For Conditions	
3537742	33.4840	-111.9262	05 / 23	6:29 PM	Left Turn	Suspected Minor Injury	Southbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3537742							Westbound	Turning Left	Car	Signal	Not Distracted		
3537753	33.4831	-111.9262	05 / 28	11:26 AM	Rear End	Possible Injury	Northbound	Straight	Car	No Controls	Not Distracted	Exceeded Lawful Speed	
3537753							Northbound	Stopped	Car	No Controls	Not Distracted	No Improper Action	
3575946	33.4840	-111.9262	08 / 28	9:05 PM	Angle	Possible Injury	Northbound	Straight	Car	Signal	Unknown		
3575946							Eastbound	Straight	Car	Signal	Unknown		
3576549	33.4824	-111.9262	08 / 15	6:20 PM	Rear End	No Injury	Southbound	Straight	Car	No Controls	Unknown	Followed Too Closely	
3576549							Southbound	Slowing	Car	No Controls	Not Distracted	No Improper Action	
3591073	33.4840	-111.9262	09 / 30	3:52 PM	Rear End	No Injury	Northbound	Slowing	Car	Signal	Unknown		
3591073							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3605741	33.4840	-111.9262	10 / 31	11:16 AM	Angle	No Injury	Southbound	Straight	Car	Signal	Not Distracted	Disregarded Traffic Signal	
3605741							Westbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3606446	33.4840	-111.9262	10 / 14	9:34 AM	Angle	Suspected Minor Injury	Southbound	Straight	Car	Signal	Outside Vehicle	Disregarded Traffic Signal	
3606446							Westbound	Straight	Car	Signal	Not Distracted		
3608806	33.4817	-111.9262	10 / 30	12:12 PM	Left Turn	No Injury	Eastbound	Turning Left	Car	No Controls	Unknown	Failed to Stop for Red Signal	
3608806							Northbound	Straight	Car	No Controls	Unknown	No Improper Action	
3609036	33.4846	-111.9262	10 / 29	2:08 PM	Rear End	Possible Injury	Northbound	Straight	Car	Signal	Unknown		
3609036							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3609036							Northbound	Stopped	Car	Signal	Not Distracted		
3609363	33.4840	-111.9262	11 / 05	11:58 AM	Left Turn	Suspected Minor Injury	Southbound	Turning Left	Car	Signal	Unknown	Failed to Stop for Red Signal	
3609363							Northbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3625327	33.4826	-111.9262	12 / 13	6:10 PM	Sideswipe Same Direction	No Injury	Northbound	Changing Lanes	Car	Stop Signs	Unknown	Failed to Stop for Red Signal	
3625327							Northbound	Turning Left	Car	No Controls	Not Distracted	No Improper Action	

2020

INCIDENT	LATITUDE	LONGITUDE	DATE	TIME	COLLISION MANNER	INJURY SEVERITY	TRAVEL DIRECTION	ACTION	VEHICLE	CONTROL	DISTRACTION	FIRST VIOLATION	SECOND VIOLATION
3635687	33.4840	-111.9262	01 / 07	8:01 AM	Left Turn	Possible Injury	Northbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3635687							Eastbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3653314	33.4842	-111.9262	02 / 03	3:19 PM	Sideswipe Same Direction	Suspected Minor Injury	Southbound	Changing Lanes	Car	Signal	Not Distracted	Unsafe Lane Change	
3653314							Southbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3653358	33.4840	-111.9262	01 / 31	7:16 PM	Left Turn	No Injury	Southbound	Turning Left	Car	Signal	Not Distracted	Failed to Stop for Red Signal	
3653358							Northbound	Straight	Car	Signal	Not Distracted		
3669207	33.4838	-111.9262	02 / 23	5:12 PM	Rear End	Suspected Minor Injury	Northbound	Straight	Car	Signal	Not Distracted	Speed Too Fast For Conditions	
3669207							Northbound	Stopped	Car	Signal	Not Distracted		
3669645	33.4827	-111.9262	02 / 27	3:20 PM	Angle	Suspected Serious Injury	Eastbound	Crossing Road	Pedestrian	No Controls	Unknown	Unknown	
3669645							Northbound	Other	Car	Signal	Not Distracted	No Improper Action	
3669694	33.4840	-111.9262	03 / 03	7:40 PM	Left Turn	No Injury	Northbound	Straight	Car	Signal	Not Distracted	Disregarded Traffic Signal	
3669694							Eastbound	Turning Left	Truck	Signal	Not Distracted	No Improper Action	
3679602	33.4832	-111.9262	05 / 29	7:16 PM	Single Vehicle	No Injury	Northbound	Straight	Car	No Controls	Not Distracted	Failed to Keep in Proper Lane	
3679964	33.4840	-111.9262	04 / 07	3:21 PM	Angle	Possible Injury	Eastbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3679964							Northbound	Straight	Car	Signal	Not Distracted	No Improper Action	
3680345	33.4825	-111.9262	05 / 03	8:55 AM	Left Turn	No Injury	Northbound	Turning Left	Car	No Controls	Unknown	Unknown	
3680345							Northbound	Straight	Car	No Controls	Not Distracted	No Improper Action	
3681790	33.4840	-111.9262	08 / 04	9:28 AM	Left Turn	No Injury	Northbound	Straight	Car	Signal	Unknown	Disregarded Traffic Signal	
3681790							Westbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3682625	33.4840	-111.9261	07 / 06	1:15 PM	Angle	Suspected Minor Injury	Northbound	Straight	Car	Signal	Unknown	Speed Too Fast For Conditions	
3682625							Eastbound	Crossing Road	Pedestrian	Signal	Not Distracted	No Improper Action	
3682799	33.4840	-111.9262	07 / 21	11:14 AM	Angle	No Injury	Northbound	Straight	Car	Signal	Not Distracted	Ran Stop Sign	
3682799							Eastbound	Straight	Car	Signal	Not Distracted		
3684899	33.4840	-111.9262	08 / 26	2:47 PM	Left Turn	Suspected Minor Injury	Northbound	Straight	Car	Signal	Not Distracted	Disregarded Traffic Signal	
3684899							Westbound	Turning Left	Car	Signal	Not Distracted	No Improper Action	
3684985	33.4840	-111.9262	09 / 03	9:19 PM	Rear End	Suspected Minor Injury	Northbound	Straight	Car	Signal	Talking On Hand Held		
3684985							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3699187	33.4835	-111.9262	10 / 02	8:47 AM	Rear End	No Injury	Northbound	Straight	Car	Signal	Other Inside The Vehic	Speed Too Fast For Conditions	
3699187							Northbound	Stopped	Car	Signal	Not Distracted	No Improper Action	
3699193	33.4840	-111.9262	10 / 02	3:39 PM	Angle	Possible Injury	Northbound	Straight	Car	Signal	Unknown	Failed to Stop for Red Signal	Disregarded Traffic Signal
3699193							Westbound	Straight	Car	Signal	Not Distracted		
3703553	33.4840	-111.9262	09 / 30	12:08 PM	Left Turn	Suspected Minor Injury	Eastbound	Turning Left	Car	Signal	Unknown		
3703553							Southbound	Straight	Car	Signal	Not Distracted		

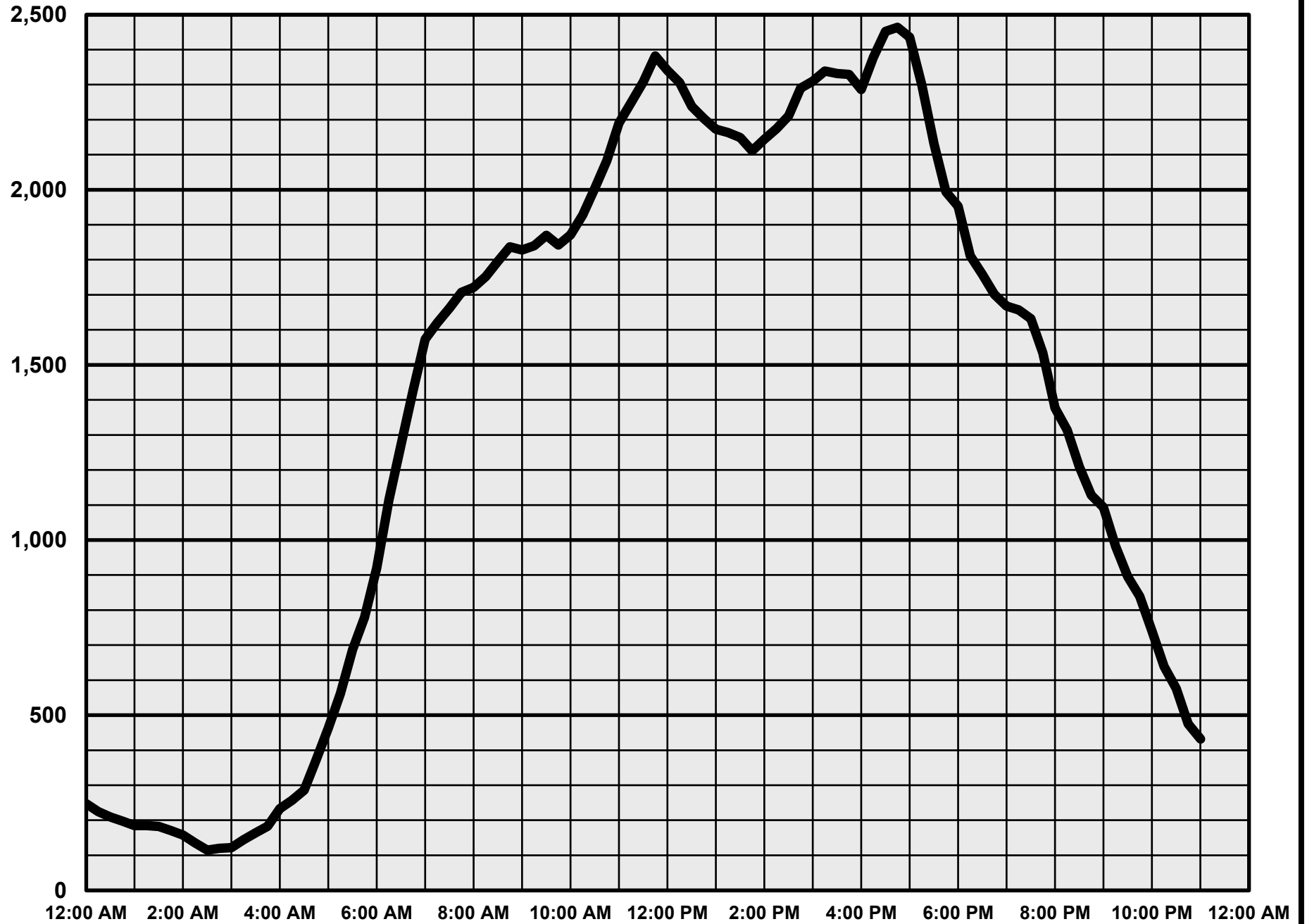






Appendix B  
2022 Traffic Counts

3202 SCOTTSDALE  
SCOTTSDALE ROAD and EARLL DRIVE - TUESDAY - 7/19/2022



3202 SCOTTSDALE

SCOTTSDALE ROAD and EARLL DRIVE - TUESDAY - 7/19/2022

EXISTING MIDNIGHT TO NOON 12-HOUR TURNING MOVEMENT COUNTS



BEGIN TIME	EARLL DRIVE EASTBOUND					EARLL DRIVE WESTBOUND					SCOTTSDALE ROAD NORTHBOUND					SCOTTSDALE ROAD SOUTHBOUND					ALL TOTAL	60 MIN. TOTAL
	LEFT	SKEW	THRU	RIGHT	TOTAL	LEFT	THRU	SKEW	RIGHT	TOTAL	LEFT	THRU	SKEW	RIGHT	TOTAL		LEFT	THRU	RIGHT	TOTAL	TOTAL	TOTAL
12:00 AM	0	0	0	1	1	0	0	0	2	2	0	18	9	5	32		0	34	0	34	69	247
12:15 AM	0	1	0	2	3	1	1	0	0	2	0	17	7	0	24		1	33	1	35	64	225
12:30 AM	0	0	2	0	2	0	0	0	0	0	0	14	8	1	23		0	31	1	32	57	209
12:45 AM	0	0	0	2	2	0	0	0	2	2	0	8	12	0	20		1	32	0	33	57	198
1:00 AM	0	0	0	0	0	0	0	1	0	1	0	17	6	2	25		0	21	0	21	47	185
1:15 AM	0	0	0	1	1	1	0	0	0	1	0	9	8	1	18		0	27	1	28	48	185
1:30 AM	0	0	1	0	1	0	0	0	1	1	0	11	7	1	19		0	24	1	25	46	182
1:45 AM	0	0	0	0	0	2	0	0	0	2	0	7	10	1	18		1	23	0	24	44	171
2:00 AM	0	0	0	0	0	0	0	2	0	2	0	16	4	0	20		2	23	0	25	47	158
2:15 AM	0	0	0	1	1	0	0	0	0	0	0	9	3	0	12		0	31	1	32	45	135
2:30 AM	1	0	0	0	1	3	0	0	0	3	0	7	5	0	12		1	18	0	19	35	115
2:45 AM	0	0	0	0	0	0	0	1	0	1	1	11	3	3	18		0	12	0	12	31	120
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	5	2	0	7		0	17	0	17	24	122
3:15 AM	0	0	0	1	1	1	0	1	0	2	0	9	0	0	9		2	11	0	13	25	144
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	20	5	1	26		0	14	0	14	40	164
3:45 AM	0	0	0	1	1	3	0	0	0	3	0	12	6	2	20		1	8	0	9	33	183
4:00 AM	0	0	1	1	2	0	0	0	1	1	0	22	3	1	26		1	16	0	17	46	233
4:15 AM	0	0	0	0	0	0	1	0	1	2	1	19	3	0	23		0	20	0	20	45	257
4:30 AM	0	0	0	0	0	3	0	0	1	4	0	22	4	2	28		1	26	0	27	59	286
4:45 AM	0	0	0	2	2	0	0	1	1	2	0	49	15	2	66		0	13	0	13	83	372
5:00 AM	0	0	0	1	1	0	0	0	0	0	0	32	12	1	45		1	23	0	24	70	463
5:15 AM	1	0	0	1	2	0	2	1	1	4	1	25	9	2	37		0	31	0	31	74	562
5:30 AM	1	0	0	2	3	3	1	1	1	6	1	57	23	0	81		2	53	0	55	145	687
5:45 AM	0	2	0	3	5	2	0	2	2	6	5	71	24	3	103		3	57	0	60	174	779



3202 SCOTTSDALE

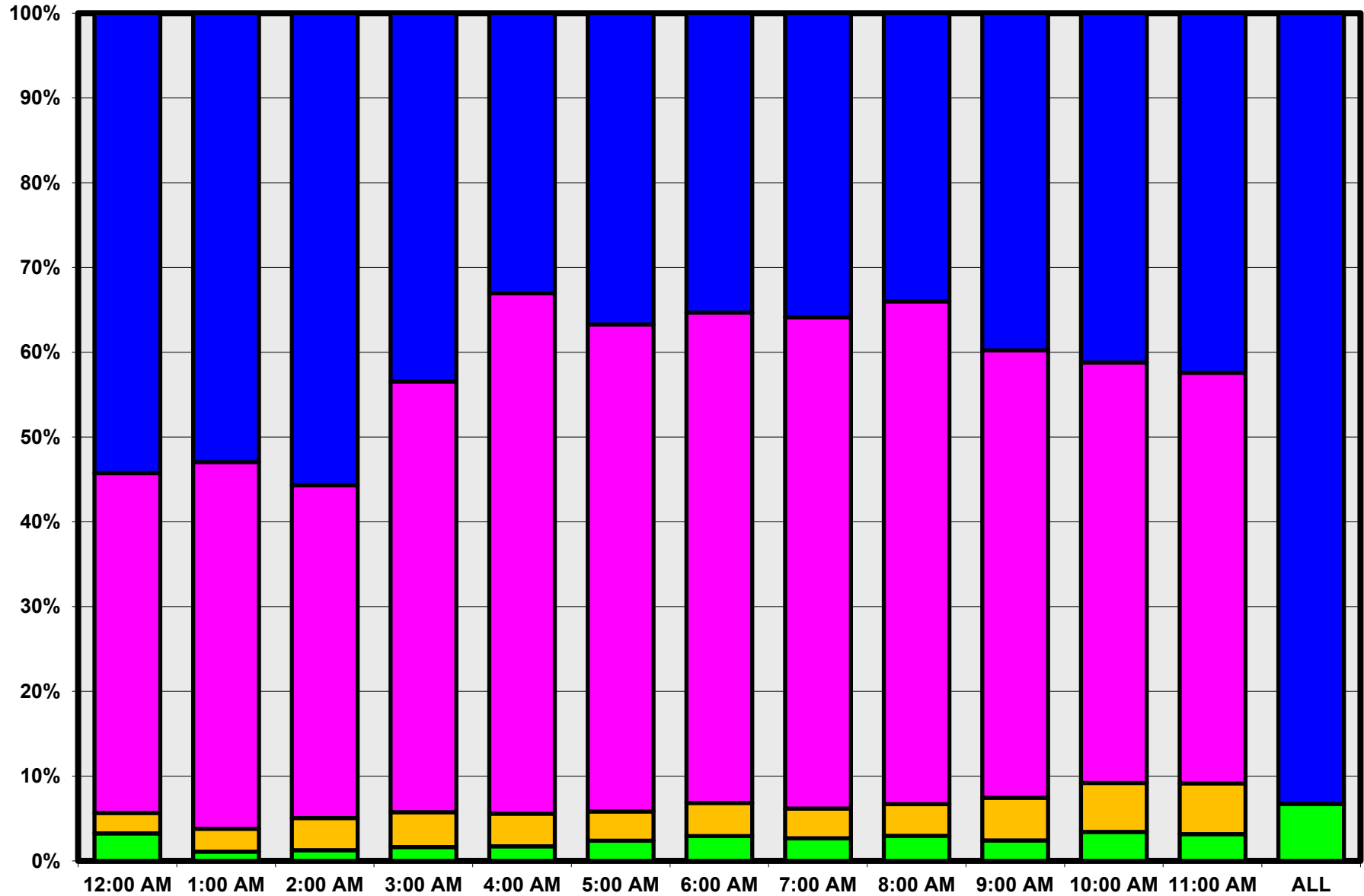
SCOTTSDALE ROAD and EARLL DRIVE - TUESDAY - 7/19/2022

EXISTING MIDNIGHT TO NOON 12-HOUR TURNING MOVEMENT COUNTS

BEGIN TIME	EARLL DRIVE EASTBOUND					EARLL DRIVE WESTBOUND					SCOTTSDALE ROAD NORTHBOUND					SCOTTSDALE ROAD SOUTHBOUND				ALL TOTAL	60 MIN. TOTAL	
	LEFT	SKEW	THRU	RIGHT	TOTAL	LEFT	THRU	SKEW	RIGHT	TOTAL	LEFT	THRU	SKEW	RIGHT	TOTAL		LEFT	THRU	RIGHT			TOTAL
6:00 AM	0	1	0	0	1	3	1	0	4	8	3	63	23	5	94		2	64	0	66	169	920
6:15 AM	0	1	1	4	6	1	0	0	4	5	0	77	29	3	109		2	77	0	79	199	1,114
6:30 AM	0	0	0	4	4	7	1	1	2	11	2	105	32	10	149		3	70	0	73	237	1,272
6:45 AM	3	0	3	10	16	6	2	0	4	12	6	113	53	8	180		14	91	2	107	315	1,426
7:00 AM	1	0	0	6	7	6	2	1	2	11	10	134	54	9	207		8	129	1	138	363	1,573
7:15 AM	2	5	1	11	19	5	2	1	5	13	6	122	51	7	186		7	129	3	139	357	1,620
7:30 AM	1	2	2	7	12	6	0	1	5	12	8	155	61	8	232		7	125	3	135	391	1,662
7:45 AM	0	0	2	2	4	11	2	0	6	19	6	198	64	19	287		7	141	4	152	462	1,707
8:00 AM	0	1	1	11	13	6	2	1	6	15	5	170	63	11	249		7	125	1	133	410	1,721
8:15 AM	2	2	2	7	13	8	0	0	8	16	10	178	52	7	247		5	112	6	123	399	1,752
8:30 AM	2	1	1	9	13	11	1	3	3	18	4	159	69	8	240		9	153	3	165	436	1,796
8:45 AM	3	3	0	6	12	7	1	0	7	15	1	203	67	14	285		13	150	1	164	476	1,837
9:00 AM	0	0	3	8	11	7	1	0	9	17	3	162	59	15	239		14	157	3	174	441	1,828
9:15 AM	1	2	0	5	8	7	2	3	13	25	9	167	63	15	254		11	143	2	156	443	1,840
9:30 AM	1	2	1	6	10	13	3	2	11	29	6	160	53	11	230		14	191	3	208	477	1,870
9:45 AM	1	1	1	12	15	11	2	1	7	21	9	160	63	10	242		16	169	4	189	467	1,842
10:00 AM	2	0	5	11	18	17	3	1	14	35	8	154	40	10	212		5	180	3	188	453	1,871
10:15 AM	1	2	1	10	14	12	2	3	7	24	9	154	57	5	225		13	194	3	210	473	1,928
10:30 AM	3	2	4	8	17	13	1	2	13	29	12	161	46	10	229		13	160	1	174	449	2,004
10:45 AM	1	0	1	13	15	9	1	1	9	20	9	174	67	12	262		9	181	9	199	496	2,083
11:00 AM	1	0	2	12	15	16	5	1	9	31	9	169	66	8	252		9	200	3	212	510	2,190
11:15 AM	3	3	3	17	26	16	2	2	11	31	4	185	49	10	248		10	232	2	244	549	2,249
11:30 AM	0	0	1	10	11	13	3	4	12	32	7	196	59	11	273		12	196	4	212	528	2,308
<b>11:45 AM</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>10</b>	<b>17</b>	<b>21</b>	<b>4</b>	<b>1</b>	<b>11</b>	<b>37</b>	<b>5</b>	<b>202</b>	<b>60</b>	<b>21</b>	<b>288</b>		<b>16</b>	<b>239</b>	<b>6</b>	<b>261</b>	<b>603</b>	<b>2,382</b>
AM PEAK	2	6	13	47	68	74	17	12	48	151	34	735	286	61	1,116	0	36	994	17	1,047	2,382	2,382
PHF	0.50	0.38	0.65	0.69	0.81	0.88	0.85	0.50	0.63	0.88	0.65	0.91	0.85	0.73	0.97		0.56	0.97	0.71	1.00	0.98	MAX



PRINCESS RENOVATIONS  
SCOTTSDALE ROAD RAMPAGE FROM DEWAR DRIVE TO 25/2022  
DIRECTION DISTRIBUTION BY HOUR



**■ EASTBOUND   ■ WESTBOUND   ■ NORTHBOUND   ■ SOUTHBOUND**

3202 SCOTTSDALE

SCOTTSDALE ROAD and EARLL DRIVE - TUESDAY - 7/19/2022  
 EXISTING NOON TO MIDNIGHT 12-HOUR TURNING MOVEMENT COUNTS



BEGIN TIME	EARLL DRIVE EASTBOUND					EARLL DRIVE WESTBOUND					SCOTTSDALE ROAD NORTHBOUND					SCOTTSDALE ROAD SOUTHBOUND					ALL TOTAL	60 MIN. TOTAL
	LEFT	SKEW	THRU	RIGHT	TOTAL	LEFT	THRU	SKEW	RIGHT	TOTAL	LEFT	THRU	SKEW	RIGHT	TOTAL		LEFT	THRU	RIGHT	TOTAL		
12:00 PM	0	0	2	9	11	20	3	3	13	39	13	167	67	9	256		9	251	3	263	569	2,341
12:15 PM	1	2	5	11	19	13	5	6	19	43	6	183	84	11	284		8	249	5	262	608	2,306
12:30 PM	0	0	4	17	21	20	5	2	5	32	10	183	75	20	288		3	255	3	261	602	2,238
12:45 PM	2	0	2	10	14	10	5	2	6	23	12	193	69	12	286		14	224	1	239	562	2,204
1:00 PM	0	1	3	8	12	9	4	3	7	23	8	154	53	12	227		15	251	6	272	534	2,173
1:15 PM	1	3	3	11	18	9	1	0	8	18	8	168	71	16	263		17	223	1	241	540	2,163
1:30 PM	3	3	2	10	18	15	2	2	11	30	12	170	78	14	274		11	232	3	246	568	2,149
1:45 PM	3	1	6	15	25	7	3	0	9	19	5	181	57	15	258		10	214	5	229	531	2,111
2:00 PM	0	1	1	7	9	13	3	3	12	31	14	142	79	14	249		5	228	2	235	524	2,144
2:15 PM	0	2	2	7	11	14	2	3	7	26	10	165	58	8	241		9	235	4	248	526	2,174
2:30 PM	1	0	4	8	13	9	1	1	7	18	8	171	57	12	248		12	236	3	251	530	2,211
2:45 PM	2	0	2	9	13	12	5	3	11	31	5	197	67	17	286		9	221	4	234	564	2,290
3:00 PM	2	2	4	10	18	11	2	2	7	22	11	146	71	16	244		15	249	6	270	554	2,310
3:15 PM	3	2	4	11	20	11	5	3	5	24	14	172	58	15	259		9	249	2	260	563	2,339
3:30 PM	0	0	3	6	9	15	3	2	14	34	10	177	59	18	264		15	287	0	302	609	2,332
3:45 PM	4	1	4	10	19	20	3	4	12	39	10	168	55	18	251		15	256	4	275	584	2,329
4:00 PM	5	1	1	7	14	18	3	6	16	43	9	163	63	19	254		14	255	3	272	583	2,286
4:15 PM	4	1	4	16	25	15	0	6	7	28	10	149	49	10	218		7	274	4	285	556	2,378
4:30 PM	3	2	3	7	15	13	5	1	9	28	8	169	69	13	259		8	293	3	304	606	2,452
<b>4:45 PM</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>11</b>	<b>18</b>	<b>10</b>	<b>3</b>	<b>1</b>	<b>12</b>	<b>26</b>	<b>12</b>	<b>144</b>	<b>67</b>	<b>11</b>	<b>234</b>		<b>11</b>	<b>247</b>	<b>5</b>	<b>263</b>	<b>541</b>	<b>2,464</b>
<b>5:00 PM</b>	1	2	2	9	14	12	6	3	13	34	17	166	77	17	277		9	338	3	350	675	2,435
5:15 PM	3	7	2	9	21	13	5	1	13	32	17	148	86	8	259		14	300	4	318	630	2,299
5:30 PM	2	1	2	10	15	8	4	1	9	22	18	183	77	12	290		11	277	3	291	618	2,131
5:45 PM	3	3	5	6	17	13	4	0	6	23	16	156	59	10	241		6	220	5	231	512	1,994



3202 SCOTTSDALE

SCOTTSDALE ROAD and EARLL DRIVE - TUESDAY - 7/19/2022

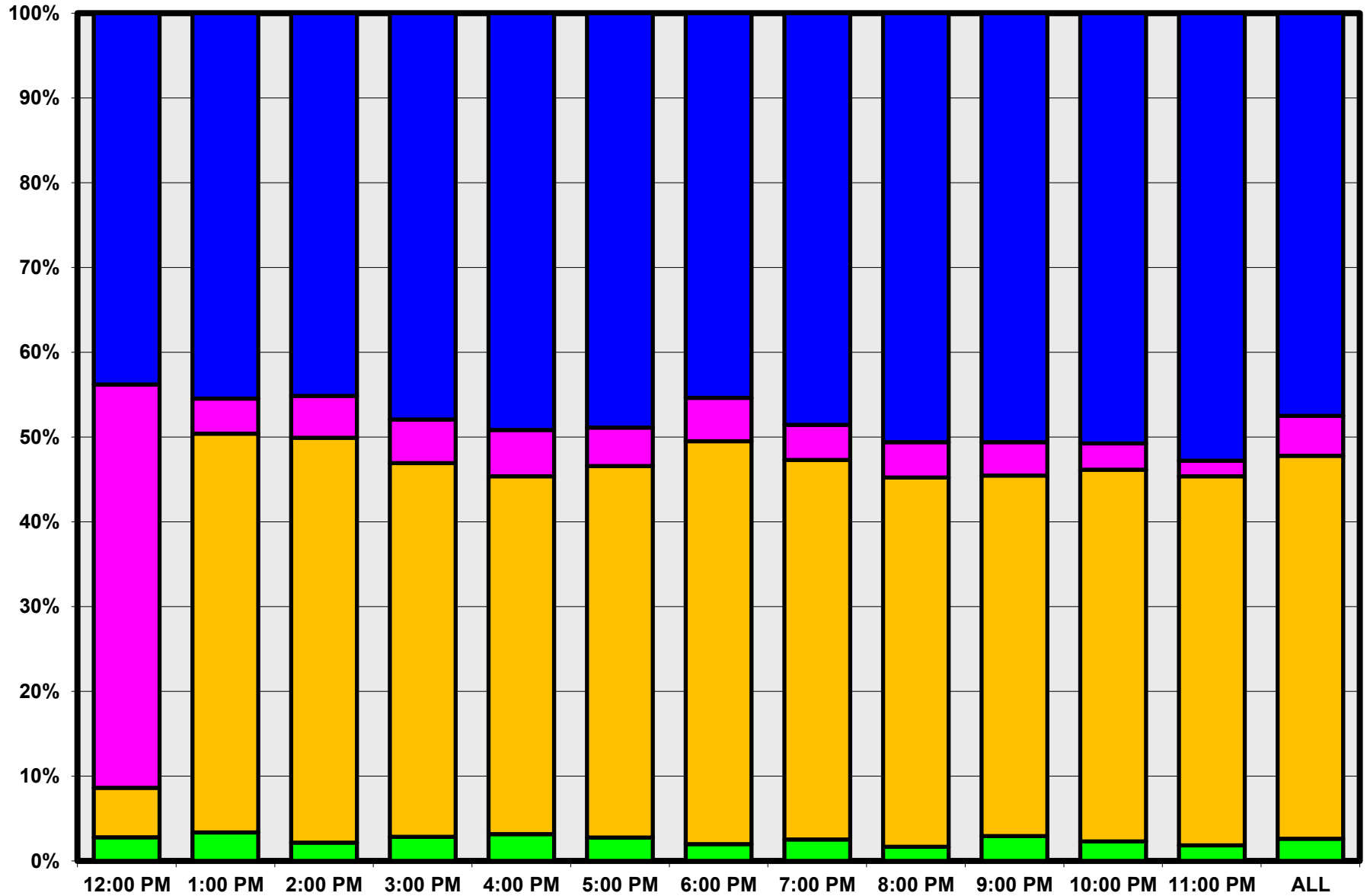
EXISTING NOON TO MIDNIGHT 12-HOUR TURNING MOVEMENT COUNTS

BEGIN TIME	EARLL DRIVE EASTBOUND					EARLL DRIVE WESTBOUND					SCOTTSDALE ROAD NORTHBOUND					SCOTTSDALE ROAD SOUTHBOUND					ALL TOTAL	60 MIN. TOTAL
	LEFT	SKEW	THRU	RIGHT	TOTAL	LEFT	THRU	SKEW	RIGHT	TOTAL	LEFT	THRU	SKEW	RIGHT	TOTAL		LEFT	THRU	RIGHT	TOTAL		
6:00 PM	3	1	2	8	14	11	0	0	9	20	12	180	72	8	272		9	223	1	233	539	1,953
6:15 PM	0	0	2	6	8	18	3	2	11	34	9	143	49	9	210		7	203	0	210	462	1,811
6:30 PM	1	0	0	5	6	11	2	2	9	24	16	131	63	9	219		8	219	5	232	481	1,758
6:45 PM	0	1	1	9	11	8	4	1	9	22	14	136	68	9	227		5	200	6	211	471	1,701
7:00 PM	1	0	1	3	5	6	4	3	6	19	15	104	40	5	164		8	201	0	209	397	1,668
7:15 PM	1	0	2	12	15	8	1	0	5	14	12	121	49	9	191		6	183	0	189	409	1,657
7:30 PM	2	1	1	10	14	6	4	1	8	19	10	113	51	13	187		6	194	4	204	424	1,632
7:45 PM	1	0	2	5	8	6	3	2	6	17	9	133	53	10	205		8	199	1	208	438	1,534
8:00 PM	0	2	1	6	9	8	4	2	1	15	16	112	42	7	177		6	176	3	185	386	1,377
8:15 PM	0	1	0	3	4	11	0	0	2	13	5	118	35	7	165		6	196	0	202	384	1,314
8:30 PM	0	0	1	6	7	8	0	0	5	13	7	80	36	6	129		2	174	1	177	326	1,209
8:45 PM	0	0	0	3	3	7	1	3	5	16	13	85	28	3	129		4	129	0	133	281	1,128
9:00 PM	2	1	0	8	11	6	2	0	1	9	4	92	39	10	145		3	153	2	158	323	1,093
9:15 PM	1	2	1	6	10	6	2	3	2	13	8	74	30	4	116		8	129	3	140	279	982
9:30 PM	2	1	1	2	6	3	0	2	5	10	2	69	24	8	103		5	119	2	126	245	895
9:45 PM	1	1	1	2	5	9	1	0	1	11	3	65	31	2	101		6	122	1	129	246	839
10:00 PM	0	0	1	7	8	3	0	2	2	7	1	55	23	4	83		5	109	0	114	212	741
10:15 PM	0	0	1	4	5	4	0	0	1	5	2	55	29	0	86		2	94	0	96	192	639
10:30 PM	0	0	0	0	0	2	0	1	4	7	4	60	27	2	93		4	84	1	89	189	576
10:45 PM	1	1	0	2	4	1	1	0	2	4	1	34	22	6	63		4	72	1	77	148	475
11:00 PM	3	0	0	2	5	0	0	1	0	1	1	29	11	2	43		1	59	1	61	110	432
11:15 PM	0	0	0	1	1	3	0	0	0	3	2	35	13	1	51		3	71	0	74	129	
11:30 PM	1	0	0	1	2	1	0	0	1	2	1	27	15	2	45		1	38	0	39	88	
11:45 PM	0	0	0	0	0	1	0	0	1	2	4	24	18	3	49		0	53	1	54	105	MAX
PM PEAK	8	11	10	39	68	43	18	6	47	114	64	641	307	48	1,060	0	45	#####	15	1,222	2,464	2,464
PHF	0.67	0.39	0.63	0.89	0.81	0.35	0.75	0.50	0.90	0.84	0.89	0.88	0.89	0.71	0.91		0.80	0.86	0.75	0.87	0.91	





3202 SCOTTSDALE  
SCOTTSDALE ROAD and EARLL DRIVE - TUESDAY - 7/19/2022  
DIRECTION DISTRIBUTION BY HOUR



**■ EASTBOUND   ■ WESTBOUND   ■ NORTHBOUND   ■ SOUTHBOUND**



Appendix C  
Trip Generation

PROJECT		3202 NORTH SCOTTSDALE ROAD					
PARCEL		PROPOSED					
ITE LAND USE CATEGORY AND CODE		MULTIFAMILY HOUSING (MID-RISE) - 221					
INDEPENDENT VARIABLE		DWELLING UNITS					
SIZE		150					
				ENTERING	EXITING	TOTAL	
<b>WEEKDAY DAILY</b>				50%	50%		
NUMBER OF STUDIES and AVERAGE SIZE		11	60	201	336		
MINIMUM RATE	LOW RATES ACCEPTABLE	3.76			282	282	564
AVERAGE RATE		4.54			341	340	681
MAXIMUM RATE	HIGH RATES ACCEPTABLE	5.40			405	405	810
STANDARD DEVIATION		0.51					
EQUATION: T = 4.77 * (X) - 46.46		R <sup>2</sup> = 0.93			408	408	816
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>408</b>	<b>408</b>	<b>816</b>	
<b>AM PEAK HOUR ADJACENT STREET</b>				26%	74%		
NUMBER OF STUDIES and AVERAGE SIZE		30	26	207	491		
MINIMUM RATE	LOW RATES SUSPECT	0.15			6	17	23
AVERAGE RATE		0.37			15	41	56
MAXIMUM RATE	HIGH RATES ACCEPTABLE	0.53			21	59	80
STANDARD DEVIATION		0.09					
EQUATION: T = 0.44 * (X) - 11.61		R <sup>2</sup> = 0.91			14	40	54
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>15</b>	<b>41</b>	<b>56</b>	
<b>AM PEAK HOUR GENERATOR</b>				26%	74%		
NUMBER OF STUDIES and AVERAGE SIZE		48	21	225	1,168		
MINIMUM RATE	LOW RATES ACCEPTABLE	0.13			5	15	20
AVERAGE RATE		0.35			14	39	53
MAXIMUM RATE	HIGH RATES ACCEPTABLE	0.53			21	59	80
STANDARD DEVIATION		0.11					
EQUATION: T = 0.32 * (X) + 5.84		R <sup>2</sup> = 0.91			14	40	54
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>14</b>	<b>40</b>	<b>54</b>	
<b>PM PEAK HOUR ADJACENT STREET</b>				61%	39%		
NUMBER OF STUDIES and AVERAGE SIZE		31	26	109	491		
MINIMUM RATE	LOW RATES SUSPECT	0.19			18	11	29
AVERAGE RATE		0.39			36	23	59
MAXIMUM RATE	HIGH RATES SUSPECT	0.57			52	34	86
STANDARD DEVIATION		0.08					
EQUATION: T = 0.39 * (X) + 0.34		R <sup>2</sup> = 0.91			36	23	59
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>36</b>	<b>23</b>	<b>59</b>	
<b>PM PEAK HOUR GENERATOR</b>				60%	40%		
NUMBER OF STUDIES and AVERAGE SIZE		22	26	221	1,160		
MINIMUM RATE	LOW RATES ACCEPTABLE	0.19			17	12	29
AVERAGE RATE		0.39			35	24	59
MAXIMUM RATE	HIGH RATES SUSPECT	0.60			54	36	90
STANDARD DEVIATION		0.10					
EQUATION: T = 0.32 * (X) + 15.57		R <sup>2</sup> = 0.93			38	26	64
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>38</b>	<b>26</b>	<b>64</b>	

Checked by: PEB 4/13/2022



PROJECT		3202 NORTH SCOTTSDALE ROAD						
PARCEL		PROPOSED						
ITE LAND USE CATEGORY AND CODE		MULTIFAMILY HOUSING (MID-RISE) - 221						
INDEPENDENT VARIABLE		DWELLING UNITS						
SIZE		150						
		ENTERING		EXITING		SUM		
<b>SATURDAY DAILY</b>				50%		50%		
NUMBER OF STUDIES and AVERAGE SIZE		5	140	250	336			
MINIMUM RATE	LOW RATES ACCEPTABLE	4.03				303	302	605
AVERAGE RATE		4.91				369	368	737
MAXIMUM RATE	HIGH RATES SUSPECT	8.51				639	638	1,277
STANDARD DEVIATION		1.26						
EQUATION: LN (T) = 0.94 * LN(X) + 1.84		R <sup>2</sup> = 0.91				350	349	699
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>369</b>		<b>368</b>		<b>737</b>
<b>PEAK HOUR GENERATOR</b>				51%		49%		
NUMBER OF STUDIES and AVERAGE SIZE		5	140	250	336			
MINIMUM RATE	LOW RATES ACCEPTABLE	0.34				26	25	51
AVERAGE RATE		0.39				30	29	59
MAXIMUM RATE	HIGH RATES ACCEPTABLE	0.43				33	32	65
STANDARD DEVIATION		0.04						
EQUATION: LN (T) = 1.00 * LN(X) - 0.91		R <sup>2</sup> = 0.92				31	29	60
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>31</b>		<b>29</b>		<b>60</b>
<b>SUNDAY DAILY</b>				50%		50%		
NUMBER OF STUDIES and AVERAGE SIZE		5	140	250	336			
MINIMUM RATE	LOW RATES ACCEPTABLE	3.06				230	229	459
AVERAGE RATE		3.77				283	283	566
MAXIMUM RATE	HIGH RATES ACCEPTABLE	4.24				318	318	636
STANDARD DEVIATION		0.48						
EQUATION: LN (T) = 0.94 * LN(X) + 1.63		R <sup>2</sup> = 0.85				270	269	539
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>283</b>		<b>283</b>		<b>566</b>
<b>PEAK HOUR GENERATOR</b>				55%		45%		
NUMBER OF STUDIES and AVERAGE SIZE		5	140	250	336			
MINIMUM RATE	LOW RATES ACCEPTABLE	0.26				21	18	39
AVERAGE RATE		0.32				26	22	48
MAXIMUM RATE	HIGH RATES ACCEPTABLE	0.42				35	28	63
STANDARD DEVIATION		0.05						
EQUATION: T = 0.24 * X + 21.51		R <sup>2</sup> = 0.79				32	26	58
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>32</b>		<b>26</b>		<b>58</b>


Checked by: PEB 4/13/2022



PROJECT		3202 NORTH SCOTTSDALE ROAD					
PARCEL		RETAIL					
ITE LAND USE CATEGORY AND CODE		SHOPPING CENTER - 820					
INDEPENDENT VARIABLE		THOUSAND SQUARE FEET					
SIZE		4.00					
		ENTERING		EXITING	TOTAL		
<b>WEEKDAY DAILY</b>				50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		108	152	538	1,510		
MINIMUM RATE	LOW RATES ACCEPTABLE	17.27			35	34	69
AVERAGE RATE		37.01			74	74	148
MAXIMUM RATE	HIGH RATES SUSPECT	81.53			163	163	326
STANDARD DEVIATION		12.79					
EQUATION: $T = 26.11 * X + 5863.73$		$R^2 = 0.60$			2,984	2,984	5,968
<b>AVERAGE</b>				<b>74</b>	<b>74</b>	<b>148</b>	
<b>AM PEAK HOUR ADJACENT STREET</b>				62%	38%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		44	158	546	1,510		
MINIMUM RATE	LOW RATES ACCEPTABLE	0.30			1	0	1
AVERAGE RATE		0.84			2	1	3
MAXIMUM RATE	HIGH RATES SUSPECT	3.11			7	5	12
STANDARD DEVIATION		0.42					
EQUATION: $T = 0.59 * X + 133.55$		$R^2 = 0.56$			84	52	136
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>84</b>	<b>52</b>	<b>136</b>	
<b>AM PEAK HOUR GENERATOR</b>				55%	45%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		26	160	509	1,320		
MINIMUM RATE	LOW RATES ACCEPTABLE	1.04			2	2	4
AVERAGE RATE		2.87			6	5	11
MAXIMUM RATE	HIGH RATES SUSPECT	5.86			13	10	23
STANDARD DEVIATION		1.14					
EQUATION: $T = 3.41 * (X) - 275.45$		$R^2 = 0.77$			-128	-104	-232
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>6</b>	<b>5</b>	<b>11</b>	
<b>PM PEAK HOUR ADJACENT STREET</b>				48%	52%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		126	153	581	2,200		
MINIMUM RATE	LOW RATES ACCEPTABLE	1.57			3	3	6
AVERAGE RATE		3.40			7	7	14
MAXIMUM RATE	HIGH RATES SUSPECT	7.58			14	16	30
STANDARD DEVIATION		1.26					
EQUATION: $LN(T) = 0.72 * LN(X) + 3.02$		$R^2 = 0.70$			27	29	56
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>27</b>	<b>29</b>	<b>56</b>	
<b>PM PEAK HOUR GENERATOR</b>				50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		28	160	493	1,320		
MINIMUM RATE	LOW RATES SUSPECT	1.78			4	3	7
AVERAGE RATE		4.09			8	8	16
MAXIMUM RATE	HIGH RATES SUSPECT	9.80			20	19	39
STANDARD DEVIATION		1.15					
EQUATION: $T = 3.72 * (X) + 181.92$		$R^2 = 0.70$			99	98	197
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>99</b>	<b>98</b>	<b>197</b>	

Checked by: PEB 4/14/2022



PROJECT	3202 NORTH SCOTTSDALE ROAD					
PARCEL	RETAIL					
ITE LAND USE CATEGORY AND CODE	SHOPPING CENTER - 820					
INDEPENDENT VARIABLE	THOUSAND SQUARE FEET					
SIZE	4.00					
			ENTERING	EXITING	SUM	
<b>SATURDAY DAILY</b>						
			50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE	48	160	647	1,510		
MINIMUM RATE	LOW RATES ACCEPTABLE	27.17		55	54	109
AVERAGE RATE		46.60		93	93	186
MAXIMUM RATE	HIGH RATES SUSPECT	94.40		189	189	378
STANDARD DEVIATION		13.66				
EQUATION: T = 36.03 * X + 6840.22		R <sup>2</sup> = 0.74		3,492	3,492	6,984
<b>AVERAGE</b>						
			<b>93</b>	<b>93</b>	<b>186</b>	
<b>PEAK HOUR GENERATOR</b>						
			52%	48%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE	81	160	559	1,510		
MINIMUM RATE	LOW RATES ACCEPTABLE	6.15		13	12	25
AVERAGE RATE		9.26		19	18	37
MAXIMUM RATE	HIGH RATES SUSPECT	15.10		31	29	60
STANDARD DEVIATION		2.07				
EQUATION: LN(T) = 0.76 * LN(X) + 3.00		R <sup>2</sup> = 0.75		30	28	58
<b>LARGEST OF AVERAGE OR EQUATION</b>						
			<b>30</b>	<b>28</b>	<b>58</b>	
<b>SUNDAY DAILY</b>						
			50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE	20	160	612	1,510		
MINIMUM RATE	LOW RATES ACCEPTABLE	4.15		9	8	17
AVERAGE RATE		18.97		38	38	76
MAXIMUM RATE	HIGH RATES SUSPECT	50.85		102	101	203
STANDARD DEVIATION		9.96				
EQUATION: T = 18.56 * X + 246.57		R <sup>2</sup> = 0.74		161	160	321
<b>AVERAGE</b>						
			<b>38</b>	<b>38</b>	<b>76</b>	
<b>PEAK HOUR GENERATOR</b>						
			49%	51%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE	16	160	532	1,268		
MINIMUM RATE	LOW RATES ACCEPTABLE	0.39		1	1	2
AVERAGE RATE		2.35		4	5	9
MAXIMUM RATE	HIGH RATES ACCEPTABLE	5.20		10	11	21
STANDARD DEVIATION		1.50				
EQUATION: NOT PROVIDED		NA		NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>						
			<b>4</b>	<b>5</b>	<b>9</b>	
Checked by: PEB 4/14/2022						
						

PROJECT		3202 NORTH SCOTTSDALE ROAD					
PARCEL		RETAIL					
ITE LAND USE CATEGORY AND CODE		SHOPPING PLAZA (40,000 to 150,000) - 821 WITHOUT SUPERMARKET					
INDEPENDENT VARIABLE		THOUSAND SQUARE FEET					
SIZE		4.00					
		ENTERING		EXITING	TOTAL		
<b>WEEKDAY DAILY</b>				50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		7	45	59	78		
MINIMUM RATE	LOW RATES ACCEPTABLE	43.29			87	86	173
AVERAGE RATE		67.52			135	135	270
MAXIMUM RATE	HIGH RATES ACCEPTABLE	91.06			182	182	364
STANDARD DEVIATION		19.25					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>135</b>	<b>135</b>	<b>270</b>
<b>AM PEAK HOUR ADJACENT STREET</b>				62%	38%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		13	43	67	110		
MINIMUM RATE	LOW RATES ACCEPTABLE	0.29			1	0	1
AVERAGE RATE		1.73			4	3	7
MAXIMUM RATE	HIGH RATES ACCEPTABLE	3.77			9	6	15
STANDARD DEVIATION		1.06					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>4</b>	<b>3</b>	<b>7</b>
<b>AM PEAK HOUR GENERATOR</b>				49%	51%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		5	42	75	147		
MINIMUM RATE	LOW RATES ACCEPTABLE	3.18			6	7	13
AVERAGE RATE		5.58			11	11	22
MAXIMUM RATE	HIGH RATES ACCEPTABLE	8.85			17	18	35
STANDARD DEVIATION		1.85					
EQUATION: $T = 5.67 * (X) - 6.87$		$R^2 = 0.80$			8	8	16
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>11</b>	<b>11</b>	<b>22</b>
<b>PM PEAK HOUR ADJACENT STREET</b>				49%	51%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		42	43	79	142		
MINIMUM RATE	LOW RATES ACCEPTABLE	2.55			5	5	10
AVERAGE RATE		5.19			10	11	21
MAXIMUM RATE	HIGH RATES SUSPECT	15.31			30	31	61
STANDARD DEVIATION		2.28					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>10</b>	<b>11</b>	<b>21</b>
<b>PM PEAK HOUR GENERATOR</b>				54%	46%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		6	7	77	141		
MINIMUM RATE	LOW RATES ACCEPTABLE	4.44			10	8	18
AVERAGE RATE		5.40			12	10	22
MAXIMUM RATE	HIGH RATES SUSPECT	8.10			17	15	32
STANDARD DEVIATION		1.20					
EQUATION: $T = 3.43 * (X) + 151.66$		$R^2 = 0.89$			89	76	165
<b>AVERAGE</b>					<b>12</b>	<b>10</b>	<b>22</b>

Checked by: PEB 4/14/2022




PROJECT	3202 NORTH SCOTTSDALE ROAD					
PARCEL	RETAIL					
ITE LAND USE CATEGORY AND CODE	SHOPPING PLAZA (40,000 to 150,000) - 821 WITHOUT SUPERMARKET					
INDEPENDENT VARIABLE	THOUSAND SQUARE FEET					
SIZE	4.00					
			ENTERING	EXITING	SUM	
<b>SATURDAY DAILY</b>						
STUDIES and LOW, AVERAGE, AND HIGH SIZE	1	56	56	56		
MINIMUM RATE	81.07			162	162	324
AVERAGE RATE	81.07			162	162	324
MAXIMUM RATE	81.07			162	162	324
STANDARD DEVIATION	NA					
EQUATION: NOT PROVIDED	NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>162</b>	<b>162</b>	<b>324</b>
<b>PEAK HOUR GENERATOR</b>						
STUDIES and LOW, AVERAGE, AND HIGH SIZE	8	43	65	94		
MINIMUM RATE	2.38			5	5	10
AVERAGE RATE	6.22			13	12	25
MAXIMUM RATE	9.91			20	20	40
STANDARD DEVIATION	2.11					
EQUATION: T = 7.75 * X - 98.93	R <sup>2</sup> = 0.58			-35	-33	-68
<b>AVERAGE</b>				<b>13</b>	<b>12</b>	<b>25</b>
<b>SUNDAY DAILY</b>						
STUDIES and LOW, AVERAGE, AND HIGH SIZE	1	56	56	56		
MINIMUM RATE	42.68			86	85	171
AVERAGE RATE	42.68			86	85	171
MAXIMUM RATE	42.68			86	85	171
STANDARD DEVIATION	42.68					
EQUATION: NOT PROVIDED	NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>86</b>	<b>85</b>	<b>171</b>
<b>PEAK HOUR GENERATOR</b>						
STUDIES and LOW, AVERAGE, AND HIGH SIZE	1	56	56	56		
MINIMUM RATE	4.71			9	10	19
AVERAGE RATE	4.71			9	10	19
MAXIMUM RATE	4.71			9	10	19
STANDARD DEVIATION	NA					
EQUATION: NOT PROVIDED	NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>9</b>	<b>10</b>	<b>19</b>
Checked by: PEB 4/14/2022						
						



PROJECT		3202 NORTH SCOTTSDALE ROAD					
PARCEL		RETAIL					
ITE LAND USE CATEGORY AND CODE		STRIP RETAIL PLAZA (LESS THAN 40,000) - 822					
INDEPENDENT VARIABLE		GENERAL URBAN / SUBURBAN					
SIZE		4.00					
		ENTERING		EXITING		TOTAL	
<b>WEEKDAY DAILY</b>				50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		4	9	19	35		
MINIMUM RATE	LOW RATES ACCEPTABLE	47.86			96	95	191
AVERAGE RATE		54.45			109	109	218
MAXIMUM RATE	HIGH RATES ACCEPTABLE	65.07			130	130	260
STANDARD DEVIATION		7.81					
EQUATION: $T = 42.20 * X + 229.68$		$R^2 = 0.96$			199	199	398
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>199</b>	<b>199</b>	<b>398</b>
<b>AM PEAK HOUR ADJACENT STREET</b>				60%	40%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		5	9	18	35		
MINIMUM RATE	LOW RATES ACCEPTABLE	1.60			4	2	6
AVERAGE RATE		2.36			5	4	9
MAXIMUM RATE	HIGH RATES ACCEPTABLE	3.73			9	6	15
STANDARD DEVIATION		0.94					
EQUATION: $LN(T) = 0.66 * LN(X) + 1.84$		$R^2 = 0.57$			10	6	16
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>10</b>	<b>6</b>	<b>16</b>
<b>AM PEAK HOUR GENERATOR</b>				50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		5	8	16	25		
MINIMUM RATE	LOW RATES ACCEPTABLE	2.40			5	5	10
AVERAGE RATE		7.60			15	15	30
MAXIMUM RATE	HIGH RATES SUSPECT	21.30			43	42	85
STANDARD DEVIATION		6.45					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>15</b>	<b>15</b>	<b>30</b>
<b>PM PEAK HOUR ADJACENT STREET</b>				50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		25	2	21	39		
MINIMUM RATE	LOW RATES ACCEPTABLE	2.81			6	5	11
AVERAGE RATE		6.59			13	13	26
MAXIMUM RATE	HIGH RATES SUSPECT	15.20			31	30	61
STANDARD DEVIATION		2.94					
EQUATION: $LN(T) = 0.71 * LN(X) + 2.72$		$R^2 = 0.56$			21	20	41
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>21</b>	<b>20</b>	<b>41</b>
<b>PM PEAK HOUR GENERATOR</b>				54%	46%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		5	8	16	25		
MINIMUM RATE	LOW RATES ACCEPTABLE	6.27			14	11	25
AVERAGE RATE		13.24			29	24	53
MAXIMUM RATE	HIGH RATES ACCEPTABLE	24.11			52	44	96
STANDARD DEVIATION		7.40					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>29</b>	<b>24</b>	<b>53</b>

Checked by: PEB 4/14/2022



PROJECT	3202 NORTH SCOTTSDALE ROAD				
PARCEL	RETAIL				
ITE LAND USE CATEGORY AND CODE	STRIP RETAIL PLAZA (LESS THAN 40,000) - 822				
INDEPENDENT VARIABLE	GENERAL URBAN / SUBURBAN				
SIZE	4.00				
			ENTERING	EXITING	SUM
<b>SATURDAY DAILY</b>					
STUDIES and LOW, AVERAGE, AND HIGH SIZE	NA	NA	NA	NA	
MINIMUM RATE	NA		NA	NA	NA
AVERAGE RATE	NA		NA	NA	NA
MAXIMUM RATE	NA		NA	NA	NA
STANDARD DEVIATION	NA				
EQUATION: NOT PROVIDED	NA		NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>			<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>PEAK HOUR GENERATOR</b>					
STUDIES and LOW, AVERAGE, AND HIGH SIZE	12	8	27	39	
MINIMUM RATE	LOW RATES ACCEPTABLE		1.88	4	4
AVERAGE RATE			6.57	13	13
MAXIMUM RATE	HIGH RATES SUSPECT		14.23	29	28
STANDARD DEVIATION			3.45		
EQUATION: NOT PROVIDED			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>			<b>13</b>	<b>13</b>	<b>26</b>
<b>SUNDAY DAILY</b>					
STUDIES and LOW, AVERAGE, AND HIGH SIZE	NA	NA	NA	NA	
MINIMUM RATE	NA		NA	NA	NA
AVERAGE RATE	NA		NA	NA	NA
MAXIMUM RATE	NA		NA	NA	NA
STANDARD DEVIATION	NA				
EQUATION: NOT PROVIDED	NA		NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>			<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>PEAK HOUR GENERATOR</b>					
STUDIES and LOW, AVERAGE, AND HIGH SIZE	NA	NA	NA	NA	
MINIMUM RATE	NA		NA	NA	NA
AVERAGE RATE	NA		NA	NA	NA
MAXIMUM RATE	NA		NA	NA	NA
STANDARD DEVIATION	NA				
EQUATION: NOT PROVIDED	NA		NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>			<b>NA</b>	<b>NA</b>	<b>NA</b>
Checked by: PEB 4/14/2022					
					

PROJECT	3202 NORTH SCOTTSDALE ROAD							
PARCEL	PROPOSED ATHLETIC CLUB							
ITE LAND USE CATEGORY AND CODE	ATHLETIC CLUB - 493							
INDEPENDENT VARIABLE	THOUSAND SQUARE FEET							
SIZE	4.00							
					ENTERING	EXITING	TOTAL	
<b>WEEKDAY DAILY</b>								
STUDIES and LOW, AVERAGE, AND HIGH SIZE	NA	NA	NA	NA	NA	NA		
MINIMUM RATE	NA				NA	NA	NA	
AVERAGE RATE	NA				NA	NA	NA	
MAXIMUM RATE	NA				NA	NA	NA	
STANDARD DEVIATION	NA							
EQUATION: NOT PROVIDED	NA				NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>NA</b>	<b>NA</b>	<b>NA</b>	
<b>AM PEAK HOUR ADJACENT STREET</b>								
STUDIES and LOW, AVERAGE, AND HIGH SIZE	2	30	40	50	61%	39%		
MINIMUM RATE	2.77				7	4	11	
AVERAGE RATE	3.16				8	5	13	
MAXIMUM RATE	3.40				9	5	14	
STANDARD DEVIATION	NA							
EQUATION: NOT PROVIDED	NA				NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>8</b>	<b>5</b>	<b>13</b>	
<b>AM PEAK HOUR GENERATOR</b>								
STUDIES and LOW, AVERAGE, AND HIGH SIZE	1	50	50	50	58%	42%		
MINIMUM RATE	3.40				8	6	14	
AVERAGE RATE	3.40				8	6	14	
MAXIMUM RATE	3.40				8	6	14	
STANDARD DEVIATION	NA							
EQUATION: NOT PROVIDED	NA				NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>8</b>	<b>6</b>	<b>14</b>	
<b>PM PEAK HOUR ADJACENT STREET</b>								
STUDIES and LOW, AVERAGE, AND HIGH SIZE	3	20	33	50	62%	38%		
MINIMUM RATE	LOW RATES ACCEPTABLE	4.83				12	7	19
AVERAGE RATE		6.29				16	9	25
MAXIMUM RATE	HIGH RATES ACCEPTABLE	8.30				20	13	33
STANDARD DEVIATION	1.47							
EQUATION: NOT PROVIDED	NA				NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>16</b>	<b>9</b>	<b>25</b>	
<b>PM PEAK HOUR GENERATOR</b>								
STUDIES and LOW, AVERAGE, AND HIGH SIZE	1	29	50	49	63%	37%		
MINIMUM RATE	6.36				16	9	25	
AVERAGE RATE	6.36				16	9	25	
MAXIMUM RATE	6.36				16	9	25	
STANDARD DEVIATION	NA							
EQUATION: NOT PROVIDED	NA				NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>16</b>	<b>9</b>	<b>25</b>	

Checked by: PEB 4/13/2022



PROJECT					3202 NORTH SCOTTSDALE ROAD				
PARCEL					PROPOSED ATHLETIC CLUB				
ITE LAND USE CATEGORY AND CODE					ATHLETIC CLUB - 493				
INDEPENDENT VARIABLE					THOUSAND SQUARE FEET				
SIZE					4.00				
					ENTERING		EXITING		SUM
<b>SATURDAY DAILY</b>					NA		NA		
STUDIES and LOW, AVERAGE, AND HIGH SIZE					NA	NA	NA	NA	
MINIMUM RATE					NA		NA		NA
AVERAGE RATE					NA		NA		NA
MAXIMUM RATE					NA		NA		NA
STANDARD DEVIATION					NA				
EQUATION: NOT PROVIDED					NA		NA		NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>NA</b>		<b>NA</b>		<b>NA</b>
<b>PEAK HOUR GENERATOR</b>					49%		51%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE					1	20	20	20	
MINIMUM RATE					8.60		17		34
AVERAGE RATE					8.60		17		34
MAXIMUM RATE					8.60		17		34
STANDARD DEVIATION					NA				
EQUATION: NOT PROVIDED					NA		NA		NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>17</b>		<b>17</b>		<b>34</b>
<b>SUNDAY DAILY</b>					NA		NA		
STUDIES and LOW, AVERAGE, AND HIGH SIZE					NA	NA	NA	NA	
MINIMUM RATE					NA		NA		NA
AVERAGE RATE					NA		NA		NA
MAXIMUM RATE					NA		NA		NA
STANDARD DEVIATION					NA				
EQUATION: NOT PROVIDED					NA		NA		NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>NA</b>		<b>NA</b>		<b>NA</b>
<b>PEAK HOUR GENERATOR</b>					NA		NA		
STUDIES and LOW, AVERAGE, AND HIGH SIZE					NA	NA	NA	NA	
MINIMUM RATE					NA		NA		NA
AVERAGE RATE					NA		NA		NA
MAXIMUM RATE					NA		NA		NA
STANDARD DEVIATION					NA				
EQUATION: NOT PROVIDED					NA		NA		NA
EQUATION: LN(T) = 0.86 * LN(X) + 4.87					<b>NA</b>		<b>NA</b>		<b>NA</b>

Checked by: PEB 4/13/2022



PROJECT		3202 NORTH SCOTTSDALE ROAD					
PARCEL		PROPOSED ATHLETIC CLUB					
ITE LAND USE CATEGORY AND CODE		HEALTH / FITNESS CLUB - 492					
INDEPENDENT VARIABLE		THOUSAND SQUARE FEET					
SIZE		4.00					
		ENTERING		EXITING		TOTAL	
<b>WEEKDAY DAILY</b>				NA		NA	
STUDIES and LOW, AVERAGE, AND HIGH SIZE		NA	NA	NA	NA		
MINIMUM RATE		NA		NA	NA	NA	
AVERAGE RATE		NA		NA	NA	NA	
MAXIMUM RATE		NA		NA	NA	NA	
STANDARD DEVIATION		NA					
EQUATION: NOT PROVIDED		NA		NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>NA</b>	<b>NA</b>	<b>NA</b>	
<b>AM PEAK HOUR ADJACENT STREET</b>				51%		49%	
STUDIES and LOW, AVERAGE, AND HIGH SIZE		6	30	44	49		
MINIMUM RATE	LOW RATES ACCEPTABLE	0.30		1	0	1	
AVERAGE RATE		1.31		3	2	5	
MAXIMUM RATE	HIGH RATES ACCEPTABLE	2.00		4	4	8	
STANDARD DEVIATION		0.64					
EQUATION: NOT PROVIDED		NA		NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>3</b>	<b>2</b>	<b>5</b>	
<b>AM PEAK HOUR GENERATOR</b>				46%		54%	
STUDIES and LOW, AVERAGE, AND HIGH SIZE		4	29	42	49		
MINIMUM RATE	LOW RATES ACCEPTABLE	0.30		0	1	1	
AVERAGE RATE		1.40		3	3	6	
MAXIMUM RATE	HIGH RATES ACCEPTABLE	2.00		4	4	8	
STANDARD DEVIATION		0.78					
EQUATION: NOT PROVIDED		NA		NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>3</b>	<b>3</b>	<b>6</b>	
<b>PM PEAK HOUR ADJACENT STREET</b>				57%		43%	
STUDIES and LOW, AVERAGE, AND HIGH SIZE		8	5	37	65		
MINIMUM RATE	LOW RATES ACCEPTABLE	1.48		3	3	6	
AVERAGE RATE		3.45		8	6	14	
MAXIMUM RATE	HIGH RATES SUSPECT	8.37		19	14	33	
STANDARD DEVIATION		1.57					
EQUATION: LN (T) = 0.67 * LN(X) + 2.44		R <sup>2</sup> = 0.67		17	12	29	
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>17</b>	<b>12</b>	<b>29</b>	
<b>PM PEAK HOUR GENERATOR</b>				52%		48%	
STUDIES and LOW, AVERAGE, AND HIGH SIZE		3	29	40	49		
MINIMUM RATE	LOW RATES ACCEPTABLE	3.08		6	6	12	
AVERAGE RATE		3.92		8	8	16	
MAXIMUM RATE	HIGH RATES ACCEPTABLE	4.30		9	8	17	
STANDARD DEVIATION		0.59					
EQUATION: NOT PROVIDED		NA		NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>8</b>	<b>8</b>	<b>16</b>	

Checked by: PEB 4/13/2022



PROJECT		3202 NORTH SCOTTSDALE ROAD					
PARCEL		PROPOSED ATHLETIC CLUB					
ITE LAND USE CATEGORY AND CODE		HEALTH / FITNESS CLUB - 492					
INDEPENDENT VARIABLE		THOUSAND SQUARE FEET					
SIZE		4.00					
				ENTERING	EXITING	SUM	
<b>SATURDAY DAILY</b>				NA	NA		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		NA	NA	NA	NA		
MINIMUM RATE		NA		NA	NA	NA	
AVERAGE RATE		NA		NA	NA	NA	
MAXIMUM RATE		NA		NA	NA	NA	
STANDARD DEVIATION		NA					
EQUATION: NOT PROVIDED		NA		NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>NA</b>	<b>NA</b>	<b>NA</b>	
<b>PEAK HOUR GENERATOR</b>				49%	51%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		3	5	16	30		
MINIMUM RATE	LOW RATES ACCEPTABLE	2.87		5	6	11	
AVERAGE RATE		3.19		6	7	13	
MAXIMUM RATE	HIGH RATES ACCEPTABLE	4.03		8	8	16	
STANDARD DEVIATION		0.63					
EQUATION: NOT PROVIDED		NA		NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>6</b>	<b>7</b>	<b>13</b>	
<b>SUNDAY DAILY</b>				NA	NA		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		NA	NA	NA	NA		
MINIMUM RATE		NA		NA	NA	NA	
AVERAGE RATE		NA		NA	NA	NA	
MAXIMUM RATE		NA		NA	NA	NA	
STANDARD DEVIATION		NA					
EQUATION: NOT PROVIDED		NA		NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>				<b>NA</b>	<b>NA</b>	<b>NA</b>	
<b>PEAK HOUR GENERATOR</b>				NA	NA		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		NA	NA	NA	NA		
MINIMUM RATE		NA		NA	NA	NA	
AVERAGE RATE		NA		NA	NA	NA	
MAXIMUM RATE		NA		NA	NA	NA	
STANDARD DEVIATION		NA					
EQUATION: NOT PROVIDED		NA		NA	NA	NA	
EQUATION: LN(T) = 0.86 * LN(X) + 4.87				<b>NA</b>	<b>NA</b>	<b>NA</b>	

Checked by: PEB 4/13/2022



PROJECT		3202 NORTH SCOTTSDALE ROAD					
PARCEL		EXISTING					
ITE LAND USE CATEGORY AND CODE		MOBILE HOME PARK - 240					
INDEPENDENT VARIABLE		DWELLING UNITS					
SIZE		48					
				ENTERING	EXITING	TOTAL	
<b>WEEKDAY DAILY</b>				50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		1	160	160	160		
MINIMUM RATE		5.00			120	120	240
AVERAGE RATE		5.00			120	120	240
MAXIMUM RATE		5.00			120	120	240
STANDARD DEVIATION		NA					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>120</b>	<b>120</b>	<b>240</b>
<b>AM PEAK HOUR ADJACENT STREET</b>				31%	69%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		1	160	160	160		
MINIMUM RATE		0.26			4	8	12
AVERAGE RATE		0.26			4	8	12
MAXIMUM RATE		0.26			4	8	12
STANDARD DEVIATION		NA					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>4</b>	<b>8</b>	<b>12</b>
<b>AM PEAK HOUR GENERATOR</b>				31%	69%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		1	160	160	160		
MINIMUM RATE		0.26			4	8	12
AVERAGE RATE		0.26			4	8	12
MAXIMUM RATE		0.26			4	8	12
STANDARD DEVIATION		NA					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>4</b>	<b>8</b>	<b>12</b>
<b>PM PEAK HOUR ADJACENT STREET</b>				62%	38%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		1	160	160	160		
MINIMUM RATE		0.46			14	8	22
AVERAGE RATE		0.46			14	8	22
MAXIMUM RATE		0.46			14	8	22
STANDARD DEVIATION		NA					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>14</b>	<b>8</b>	<b>22</b>
<b>PM PEAK HOUR GENERATOR</b>				59%	41%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE		1	160	160	160		
MINIMUM RATE		0.49			14	10	24
AVERAGE RATE		0.49			14	10	24
MAXIMUM RATE		0.49			14	10	24
STANDARD DEVIATION		NA					
EQUATION: NOT PROVIDED		NA			NA	NA	NA
<b>LARGEST OF AVERAGE OR EQUATION</b>					<b>14</b>	<b>10</b>	<b>24</b>

Checked by: PEB 4/13/2022



PROJECT					3202 NORTH SCOTTSDALE ROAD						
PARCEL					EXISTING						
ITE LAND USE CATEGORY AND CODE					MOBILE HOME PARK - 240						
INDEPENDENT VARIABLE					DWELLING UNITS						
SIZE					48						
					ENTERING	EXITING	SUM				
<b>SATURDAY DAILY</b>						50%	50%				
STUDIES and LOW, AVERAGE, AND HIGH SIZE					1	160	160	160			
MINIMUM RATE					4.61			111	110	221	
AVERAGE RATE					4.61			111	110	221	
MAXIMUM RATE					4.61			111	110	221	
STANDARD DEVIATION					NA						
EQUATION: NOT PROVIDED					NA			NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>								<b>111</b>	<b>110</b>	<b>221</b>	
<b>PEAK HOUR GENERATOR</b>								50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE					1	160	160	160			
MINIMUM RATE					0.40			10	9	19	
AVERAGE RATE					0.40			10	9	19	
MAXIMUM RATE					0.40			10	9	19	
STANDARD DEVIATION					NA						
EQUATION: NOT PROVIDED					NA			NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>								<b>10</b>	<b>9</b>	<b>19</b>	
<b>SUNDAY DAILY</b>								50%	50%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE					1	160	160	160			
MINIMUM RATE					4.24			102	102	204	
AVERAGE RATE					4.24			102	102	204	
MAXIMUM RATE					4.24			102	102	204	
STANDARD DEVIATION					NA						
EQUATION: NOT PROVIDED					NA			NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>								<b>102</b>	<b>102</b>	<b>204</b>	
<b>PEAK HOUR GENERATOR</b>								49%	51%		
STUDIES and LOW, AVERAGE, AND HIGH SIZE					1	160	160	160			
MINIMUM RATE					0.43			10	11	21	
AVERAGE RATE					0.43			10	11	21	
MAXIMUM RATE					0.43			10	11	21	
STANDARD DEVIATION					NA						
EQUATION: NOT PROVIDED					NA			NA	NA	NA	
<b>LARGEST OF AVERAGE OR EQUATION</b>								<b>10</b>	<b>11</b>	<b>21</b>	

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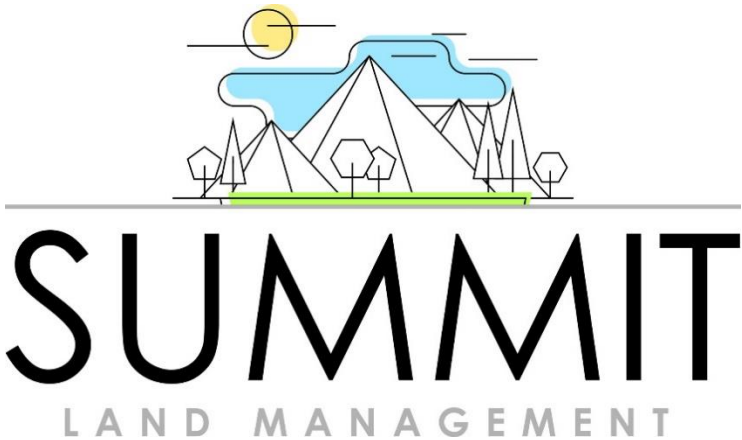




Appendix D

Level-of-Service without and with 3202 Scottsdale





Appendix D.1  
Signal Timing for Scottsdale / Earll

**SCOTTSDALE & EARLL** S.D. Rt. e 3 #

**BASIC TIMING PLAN** Section # P. MM1 - 5 - 1 Date Designed 9/27/

172.27

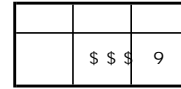
Phase	2		4		6		8	
	Movement	SBT	WBT	NBT	SBT	WBT	NBT	SBT
NOT	COO				COO			
MIN	1		7		1		7	
BK M								
CS M								
DLY								
WAL	8		8		8		9	
WAL								
WLK I								
PED CL	1		2		1		2	
PD C								
PC M								
PED								
VEH EXT		1		2		1		
VH E								
MAX	7		4		7		4	
MAX	8		6		8		6	
MAX								
DY M								
DY M								
YELL	4		3		4		3	
RED	1		1		1		1	
RED								
RED	2		2		2		2	
ACT								
SEC /								
MAX								
TIME								
CARS								
STPT								
TTRE								
MIN								
LOCK								
VEH R								
PED R								
MAX RE								
SOFT F								
NO R								
ADD IN								

TIMING PLAN - MM-2-1

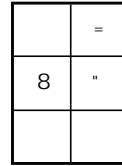
MM-2-8

RECALLS

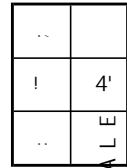
SCOTTSDALE



EARLL DR. - WB



PHAS



SCOTTSDALE NB

EARLL DR. 2



PHASING S	
TOD:	MC
R	2 4
R	6 8
Use Tim B B	
TOD:	M
R	2 4
R	6 8
Use Tim B B	
TOD:	E
R	2 4
R	6 8
Use Tim B B	
TOD:	
R	2 4
R	6 8
Use Tim B B	
TOD:	
R	2 4
R	6 8
Use Tim B B	

NOT

Approved By

---

Effective Date

# SCOTTSDALE & EAST RYAN

COORDINATOR: Section # Date Updated  
0 9/27/2021

PHASE	1	2	3	4	5	6	7	8
FDW		10		28		18		24
YELLOW		4.4		3.3		4.4		3.3
ALL RED		1.3		1.8		1	3	1.8
WALK		1		2		1		2

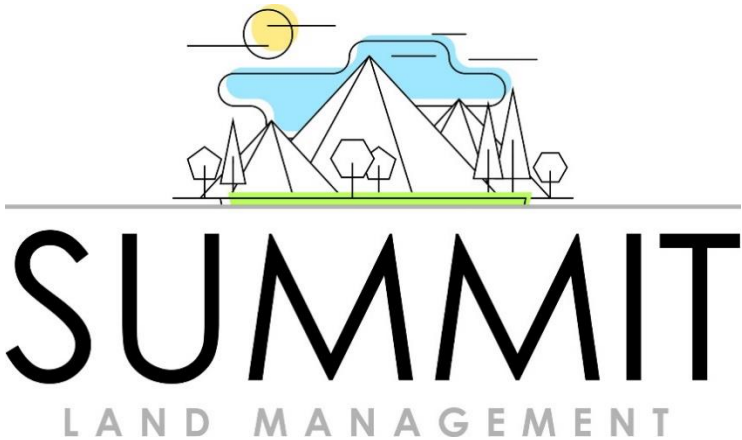
PLAN 1 AM PLAN OPERATIVE TIMES 6:30	R1	2	\$		4	!		COORD PATTERN	OFFSET	
	R2	6	#		8	"		Balanced	96	
	PLAN	RING 1				RING 2				
	PHASE		2		4		6		8	
	SPLIT		78		42		78		Target Cycle Length	
	COORD								120	
	RECALLS								Actual Cycle Length	
GREEN		72.3		36.9		72.3		36.9		

PLAN 2 MIDDAY OPERATIVE TIMES 9:00	R1	2	\$		4	!		COORD PATTERN	OFFSET	
	R2	6	#		8	"		Balanced	96	
	PLAN	RING 1				RING 2				
	PHASE		2		4		6		8	
	SPLIT		70		38		70		Target Cycle Length	
	COORD								108	
	RECALLS								Actual Cycle Length	
GREEN		64.3		32.9		64.3		32.9		

PLAN 3 PM PLAN OPERATIVE TIMES 15:00	R1	2	\$		4	!		COORD PATTERN	OFFSET	
	R2	6	#		8	"		Balanced	93	
	PLAN	RING 1				RING 2				
	PHASE		2		4		6		8	
	SPLIT		78		42		78		Target Cycle Length	
	COORD								120	
	RECALLS								Actual Cycle Length	
GREEN		72.3		36.9		72.3		36.9		

PLAN 1 MIDNIGHT PLAN OPERATIVE TIMES	R1	2	\$		4	!		COORD PATTERN	OFFSET	
	R2	6	#		8	"		Balanced	6	
	PLAN	RING 1				RING 2				
	PHASE		2		4		6		8	
	SPLIT		64		26		64		Target Cycle Length	
	COORD								90	
	RECALLS								Actual Cycle Length	
GREEN		58.3		20.9		58.3		20.9		
































Appendix D.2  
Adjusted Existing 2022 Traffic Volumes

Adjusted Existing 2022 AM
















1: Scottsdale Road & Earl Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (vph)	8	8	4	35	34	4	4	28	22	763	270	43	37	581	12
Future Volume (vph)	8	8	4	35	34	4	4	28	22	763	270	43	37	581	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91	0.91
Frt			0.895				0.850			0.954		0.850		0.996	
Flt Protected	0.950		0.989		0.950				0.950				0.950		
Satd. Flow (prot)	1770	0	1649	0	1770	1863	1583	0	1770	3234	0	1441	1770	5065	0
Flt Permitted	0.754		0.923		0.709				0.408				0.205		
Satd. Flow (perm)	1405	0	1539	0	1321	1863	1583	0	760	3234	0	1441	382	5065	0
Right Turn on Red				Yes				No					Yes		Yes
Satd. Flow (RTOR)			51							1		46		6	
Link Speed (mph)			30			30				30				30	
Link Distance (ft)			643			323				1018				674	
Travel Time (s)			14.6			7.3				23.1				15.3	
Peak Hour Factor	0.38	0.50	0.65	0.69	0.88	0.85	0.63	0.50	0.65	0.91	0.73	0.85	0.56	0.97	0.71
Adj. Flow (vph)	21	16	6	51	39	5	6	56	34	838	370	51	66	599	17
Shared Lane Traffic (%)												10%			
Lane Group Flow (vph)	21	0	73	0	39	5	62	0	34	1213	0	46	66	616	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Right	Left	Left	Right
Median Width(ft)			12			12				12				12	
Link Offset(ft)			0			0				0				0	
Crosswalk Width(ft)			16			16				16				16	
Two way Left Turn Lane															
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	9	15		9
Number of Detectors	1	1	2		1	2	1		1	2		1	1	2	
Detector Template	Left	Left	Thru		Left	Thru	Right		Left	Thru		Right	Left	Thru	
Leading Detector (ft)	20	20	100		20	100	20		20	100		20	20	100	
Trailing Detector (ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Position(ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Size(ft)	20	20	6		20	6	20		20	6		20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	



Adjusted Existing 2022 AM

1: Scottsdale Road & Earl Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Detector 1 Channel															
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)			94			94				94				94	
Detector 2 Size(ft)			6			6				6				6	
Detector 2 Type			Cl+Ex			Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel															
Detector 2 Extend (s)			0.0			0.0				0.0				0.0	
Turn Type	Perm	Perm	NA		Perm	NA	Perm		Perm	NA		Perm	Perm	NA	
Protected Phases			4			8				2			6	6	
Permitted Phases	4	4			8		8		2			2	6		
Detector Phase	4	4	4		8	8	8		2	2		2	6	6	
Switch Phase															
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	25.0	25.0	25.0		25.0	25.0	25.0		25.0	25.0		25.0	25.0	25.0	
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0		78.0	78.0		78.0	78.0	78.0	
Total Split (%)	35.0%	35.0%	35.0%		35.0%	35.0%	35.0%		65.0%	65.0%		65.0%	65.0%	65.0%	
Maximum Green (s)	36.9	36.9	36.9		36.9	36.9	36.9		72.3	72.3		72.3	72.3	72.3	
Yellow Time (s)	3.3	3.3	3.3		3.3	3.3	3.3		4.4	4.4		4.4	4.4	4.4	
All-Red Time (s)	1.8	1.8	1.8		1.8	1.8	1.8		1.3	1.3		1.3	1.3	1.3	
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.1		5.1		5.1	5.1	5.1		5.7	5.7		5.7	5.7	5.7	
Lead/Lag															
Lead-Lag Optimize?															
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Recall Mode	None	None	None		None	None	None		Max	Max		Max	Max	Max	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0		11.0	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0		0	0		0	0	0	
Act Effct Green (s)	9.0		9.0		9.0	9.0	9.0		78.1	78.1		78.1	78.1	78.1	
Actuated g/C Ratio	0.10		0.10		0.10	0.10	0.10		0.83	0.83		0.83	0.83	0.83	
v/c Ratio	0.16		0.38		0.31	0.03	0.41		0.05	0.45		0.04	0.21	0.15	
Control Delay	40.6		22.6		45.4	37.2	47.7		2.8	3.9		0.9	4.8	2.4	

Adjusted Existing 2022 AM

1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Queue Delay	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Delay	40.6		22.6		45.4	37.2	47.7		2.8	3.9		0.9	4.8	2.4	
LOS	D		C		D	D	D		A	A		A	A	A	
Approach Delay			26.6			46.4				3.7					2.6
Approach LOS			C			D				A					A

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 94.5  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.45  
 Intersection Signal Delay: 6.4  
 Intersection Capacity Utilization 51.8%  
 Analysis Period (min) 15



























Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 1: Scottsdale Road & Earll Drive & Drinkwater Boulevard


















ADJUSTED Existing 2022 PM

1: Scottsdale Road & Earl Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (vph)	9	12	11	42	46	19	51	6	69	689	52	330	48	1249	16
Future Volume (vph)	9	12	11	42	46	19	51	6	69	689	52	330	48	1249	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91	0.91
Frt			0.926				0.850			0.982		0.850		0.998	
Flt Protected	0.950		0.984		0.950				0.950				0.950		
Satd. Flow (prot)	1770	0	1697	0	1770	1863	1583	0	1770	3329	0	1441	1770	5075	0
Flt Permitted	0.741		0.896		0.695				0.155				0.290		
Satd. Flow (perm)	1380	0	1546	0	1295	1863	1583	0	289	3329	0	1441	540	5075	0
Right Turn on Red				Yes				No					Yes		Yes
Satd. Flow (RTOR)			42							6		334		3	
Link Speed (mph)			30			30				30				30	
Link Distance (ft)			643			323				1018				674	
Travel Time (s)			14.6			7.3				23.1				15.3	
Peak Hour Factor	0.67	0.39	0.63	0.89	0.35	0.75	0.90	0.50	0.89	0.88	0.71	0.89	0.80	0.86	0.75
Adj. Flow (vph)	13	31	17	47	131	25	57	12	78	783	73	371	60	1452	21
Shared Lane Traffic (%)												10%			
Lane Group Flow (vph)	13	0	95	0	131	25	69	0	78	893	0	334	60	1473	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Right	Left	Left	Right
Median Width(ft)			12			12				12				12	
Link Offset(ft)			0			0				0				0	
Crosswalk Width(ft)			16			16				16				16	
Two way Left Turn Lane															
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	9	15		9
Number of Detectors	1	1	2		1	2	1		1	2		1	1	2	
Detector Template	Left	Left	Thru		Left	Thru	Right		Left	Thru		Right	Left	Thru	
Leading Detector (ft)	20	20	100		20	100	20		20	100		20	20	100	
Trailing Detector (ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Position(ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Size(ft)	20	20	6		20	6	20		20	6		20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
















ADJUSTED Existing 2022 PM

1: Scottsdale Road & Earl Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Detector 1 Channel															
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)			94			94				94				94	
Detector 2 Size(ft)			6			6				6				6	
Detector 2 Type			Cl+Ex			Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel															
Detector 2 Extend (s)			0.0			0.0				0.0				0.0	
Turn Type	Perm	Perm	NA		Perm	NA	Perm		Perm	NA		Perm	Perm	NA	
Protected Phases			4			8				2			6	6	
Permitted Phases	4	4			8		8		2			2	6		
Detector Phase	4	4	4		8	8	8		2	2		2	6	6	
Switch Phase															
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	25.0	25.0	25.0		25.0	25.0	25.0		25.0	25.0		25.0	25.0	25.0	
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0		78.0	78.0		78.0	78.0	78.0	
Total Split (%)	35.0%	35.0%	35.0%		35.0%	35.0%	35.0%		65.0%	65.0%		65.0%	65.0%	65.0%	
Maximum Green (s)	36.9	36.9	36.9		36.9	36.9	36.9		72.3	72.3		72.3	72.3	72.3	
Yellow Time (s)	3.3	3.3	3.3		3.3	3.3	3.3		4.4	4.4		4.4	4.4	4.4	
All-Red Time (s)	1.8	1.8	1.8		1.8	1.8	1.8		1.3	1.3		1.3	1.3	1.3	
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.1		5.1		5.1	5.1	5.1		5.7	5.7		5.7	5.7	5.7	
Lead/Lag															
Lead-Lag Optimize?															
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Recall Mode	None	None	None		None	None	None		Max	Max		Max	Max	Max	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0		11.0	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0		0	0		0	0	0	
Act Effct Green (s)	15.5		15.5		15.5	15.5	15.5		75.2	75.2		75.2	75.2	75.2	
Actuated g/C Ratio	0.15		0.15		0.15	0.15	0.15		0.74	0.74		0.74	0.74	0.74	
v/c Ratio	0.06		0.35		0.66	0.09	0.29		0.36	0.36		0.29	0.15	0.39	
Control Delay	35.0		25.2		56.1	35.3	39.4		11.7	5.5		1.3	5.9	5.5	

ADJUSTED Existing 2022 PM

1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Queue Delay	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Delay	35.0		25.2		56.1	35.3	39.4		11.7	5.5		1.3	5.9	5.5	
LOS	C		C		E	D	D		B	A		A	A	A	
Approach Delay			26.4			48.7				4.8					5.6
Approach LOS			C			D				A					A

Intersection Summary

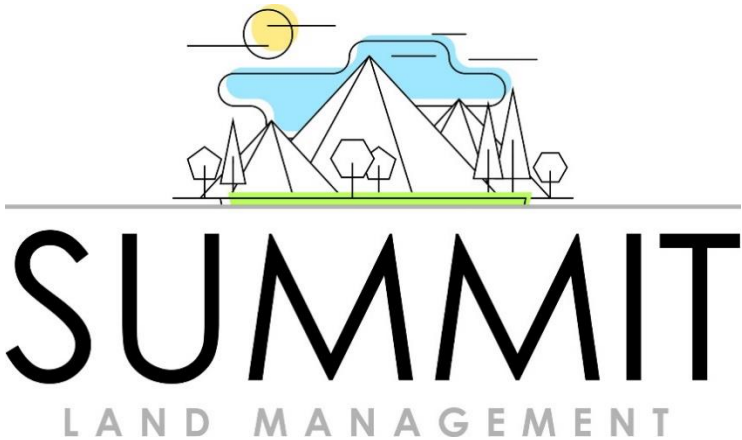
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 101.5  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.66  
 Intersection Signal Delay: 9.0  
 Intersection Capacity Utilization 52.9%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

































Appendix D.3  
2024 Traffic Volumes

Ambient 2024 AM

1: Scottsdale Road & Earl Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (vph)	8	8	4	37	36	4	4	28	23	809	286	46	39	616	13
Future Volume (vph)	8	8	4	37	36	4	4	28	23	809	286	46	39	616	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91	0.91
Frt			0.893				0.850			0.954		0.850		0.996	
Flt Protected	0.950		0.990		0.950				0.950				0.950		
Satd. Flow (prot)	1770	0	1647	0	1770	1863	1583	0	1770	3234	0	1441	1770	5065	0
Flt Permitted	0.754		0.925		0.708				0.392				0.187		
Satd. Flow (perm)	1405	0	1539	0	1319	1863	1583	0	730	3234	0	1441	348	5065	0
Right Turn on Red				Yes				No					Yes		Yes
Satd. Flow (RTOR)			54							1		49		6	
Link Speed (mph)			30			30				30				30	
Link Distance (ft)			643			323				1018				674	
Travel Time (s)			14.6			7.3				23.1				15.3	
Peak Hour Factor	0.38	0.50	0.65	0.69	0.88	0.85	0.63	0.50	0.65	0.91	0.73	0.85	0.56	0.97	0.71
Adj. Flow (vph)	21	16	6	54	41	5	6	56	35	889	392	54	70	635	18
Shared Lane Traffic (%)												10%			
Lane Group Flow (vph)	21	0	76	0	41	5	62	0	35	1286	0	49	70	653	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Right	Left	Left	Right
Median Width(ft)			12			12				12				12	
Link Offset(ft)			0			0				0				0	
Crosswalk Width(ft)			16			16				16				16	
Two way Left Turn Lane															
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	9	15		9
Number of Detectors	1	1	2		1	2	1		1	2		1	1	2	
Detector Template	Left	Left	Thru		Left	Thru	Right		Left	Thru		Right	Left	Thru	
Leading Detector (ft)	20	20	100		20	100	20		20	100		20	20	100	
Trailing Detector (ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Position(ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Size(ft)	20	20	6		20	6	20		20	6		20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	


















Ambient 2024 AM

1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Detector 1 Channel															
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)			94			94				94				94	
Detector 2 Size(ft)			6			6				6				6	
Detector 2 Type			Cl+Ex			Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel															
Detector 2 Extend (s)			0.0			0.0				0.0				0.0	
Turn Type	Perm	Perm	NA		Perm	NA	Perm		Perm	NA		Perm	Perm	NA	
Protected Phases			4			8				2				6	
Permitted Phases	4	4			8		8		2			2	6		
Detector Phase	4	4	4		8	8	8		2	2		2	6	6	
Switch Phase															
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	25.0	25.0	25.0		25.0	25.0	25.0		25.0	25.0		25.0	25.0	25.0	
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0		78.0	78.0		78.0	78.0	78.0	
Total Split (%)	35.0%	35.0%	35.0%		35.0%	35.0%	35.0%		65.0%	65.0%		65.0%	65.0%	65.0%	
Maximum Green (s)	36.9	36.9	36.9		36.9	36.9	36.9		72.3	72.3		72.3	72.3	72.3	
Yellow Time (s)	3.3	3.3	3.3		3.3	3.3	3.3		4.4	4.4		4.4	4.4	4.4	
All-Red Time (s)	1.8	1.8	1.8		1.8	1.8	1.8		1.3	1.3		1.3	1.3	1.3	
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.1		5.1		5.1	5.1	5.1		5.7	5.7		5.7	5.7	5.7	
Lead/Lag															
Lead-Lag Optimize?															
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Recall Mode	None	None	None		None	None	None		Max	Max		Max	Max	Max	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0		11.0	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0		0	0		0	0	0	
Act Effct Green (s)	9.0		9.0		9.0	9.0	9.0		77.9	77.9		77.9	77.9	77.9	
Actuated g/C Ratio	0.10		0.10		0.10	0.10	0.10		0.83	0.83		0.83	0.83	0.83	
v/c Ratio	0.16		0.39		0.33	0.03	0.41		0.06	0.48		0.04	0.24	0.16	
Control Delay	40.5		22.3		45.9	37.2	47.6		2.9	4.1		0.9	5.5	2.4	

Ambient 2024 AM

1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

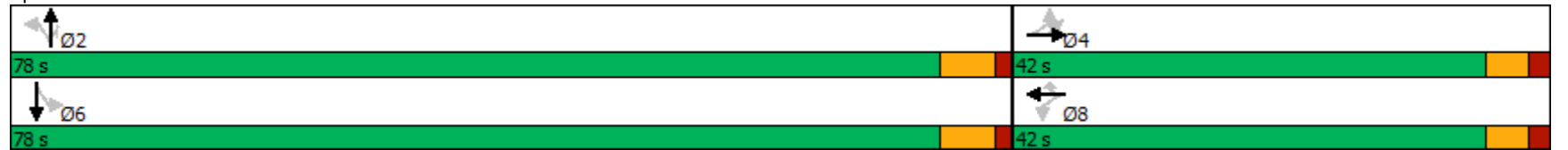
															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Queue Delay	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Delay	40.5		22.3		45.9	37.2	47.6		2.9	4.1		0.9	5.5	2.4	
LOS	D		C		D	D	D		A	A		A	A	A	
Approach Delay			26.3			46.5				3.9					2.7
Approach LOS			C			D				A					A




























Intersection Summary
















Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 94.4  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.48  
 Intersection Signal Delay: 6.5  
 Intersection Capacity Utilization 53.6%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 1: Scottsdale Road & Earll Drive & Drinkwater Boulevard



															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (vph)	10	13	12	45	49	20	54	6	73	731	55	350	51	1325	17
Future Volume (vph)	10	13	12	45	49	20	54	6	73	731	55	350	51	1325	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91	0.91
Frt			0.926				0.850			0.982		0.850		0.998	
Flt Protected	0.950		0.984		0.950				0.950				0.950		
Satd. Flow (prot)	1770	0	1697	0	1770	1863	1583	0	1770	3329	0	1441	1770	5075	0
Flt Permitted	0.740		0.897		0.687				0.137				0.269		
Satd. Flow (perm)	1378	0	1547	0	1280	1863	1583	0	255	3329	0	1441	501	5075	0
Right Turn on Red				Yes				No					Yes		Yes
Satd. Flow (RTOR)			35							6		354		3	
Link Speed (mph)			30			30				30				30	
Link Distance (ft)			643			323				1018				674	
Travel Time (s)			14.6			7.3				23.1				15.3	
Peak Hour Factor	0.67	0.39	0.63	0.89	0.35	0.75	0.90	0.50	0.89	0.88	0.71	0.89	0.80	0.86	0.75
Adj. Flow (vph)	15	33	19	51	140	27	60	12	82	831	77	393	64	1541	23
Shared Lane Traffic (%)												10%			
Lane Group Flow (vph)	15	0	103	0	140	27	72	0	82	947	0	354	64	1564	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Right	Left	Left	Right
Median Width(ft)			12			12				12				12	
Link Offset(ft)			0			0				0				0	
Crosswalk Width(ft)			16			16				16				16	
Two way Left Turn Lane															
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	9	15		9
Number of Detectors	1	1	2		1	2	1		1	2		1	1	2	
Detector Template	Left	Left	Thru		Left	Thru	Right		Left	Thru		Right	Left	Thru	
Leading Detector (ft)	20	20	100		20	100	20		20	100		20	20	100	
Trailing Detector (ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Position(ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Size(ft)	20	20	6		20	6	20		20	6		20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Detector 1 Channel															
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)			94			94				94				94	
Detector 2 Size(ft)			6			6				6				6	
Detector 2 Type			Cl+Ex			Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel															
Detector 2 Extend (s)			0.0			0.0				0.0				0.0	
Turn Type	Perm	Perm	NA		Perm	NA	Perm		Perm	NA		Perm	Perm	NA	
Protected Phases			4			8				2			6	6	
Permitted Phases	4	4			8		8		2			2	6		
Detector Phase	4	4	4		8	8	8		2	2		2	6	6	
Switch Phase															
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	25.0	25.0	25.0		25.0	25.0	25.0		25.0	25.0		25.0	25.0	25.0	
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0		78.0	78.0		78.0	78.0	78.0	
Total Split (%)	35.0%	35.0%	35.0%		35.0%	35.0%	35.0%		65.0%	65.0%		65.0%	65.0%	65.0%	
Maximum Green (s)	36.9	36.9	36.9		36.9	36.9	36.9		72.3	72.3		72.3	72.3	72.3	
Yellow Time (s)	3.3	3.3	3.3		3.3	3.3	3.3		4.4	4.4		4.4	4.4	4.4	
All-Red Time (s)	1.8	1.8	1.8		1.8	1.8	1.8		1.3	1.3		1.3	1.3	1.3	
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.1		5.1		5.1	5.1	5.1		5.7	5.7		5.7	5.7	5.7	
Lead/Lag															
Lead-Lag Optimize?															
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Recall Mode	None	None	None		None	None	None		Max	Max		Max	Max	Max	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0		11.0	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0		0	0		0	0	0	
Act Effct Green (s)	16.2		16.2		16.2	16.2	16.2		74.6	74.6		74.6	74.6	74.6	
Actuated g/C Ratio	0.16		0.16		0.16	0.16	0.16		0.73	0.73		0.73	0.73	0.73	
v/c Ratio	0.07		0.37		0.69	0.09	0.29		0.44	0.39		0.31	0.17	0.42	
Control Delay	34.8		28.3		56.9	35.0	39.0		15.8	6.0		1.3	6.6	6.0	

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Queue Delay	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Delay	34.8		28.3		56.9	35.0	39.0		15.8	6.0		1.3	6.6	6.0	
LOS	C		C		E	C	D		B	A		A	A	A	
Approach Delay			29.1			49.0				5.4					6.1
Approach LOS			C			D				A					A

Intersection Summary

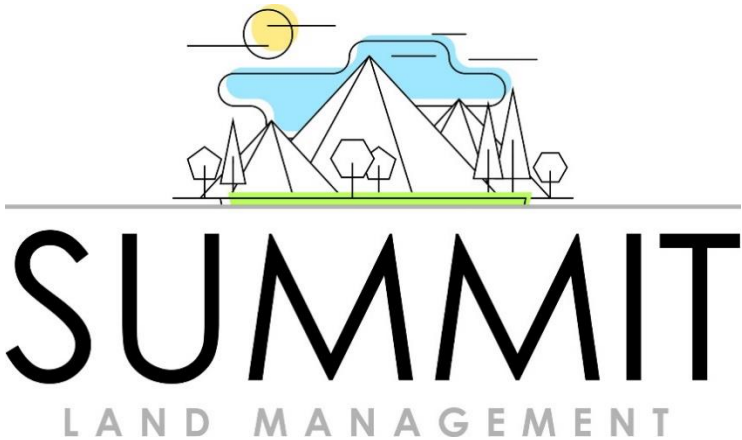
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 101.6  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 9.7  
 Intersection Capacity Utilization 54.7%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

































Appendix D.4

2024 plus 3202 Scottsdale Traffic Volumes

2024 Plus Site AM
















1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (vph)	10	10	5	48	36	5	4	28	26	809	286	46	39	619	15
Future Volume (vph)	10	10	5	48	36	5	4	28	26	809	286	46	39	619	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91	0.91
Frt			0.893				0.850			0.954		0.850		0.995	
Flt Protected	0.950		0.990		0.950				0.950				0.950		
Satd. Flow (prot)	1770	0	1647	0	1770	1863	1583	0	1770	3234	0	1441	1770	5060	0
Flt Permitted	0.754		0.927		0.694				0.390				0.184		
Satd. Flow (perm)	1405	0	1542	0	1293	1863	1583	0	726	3234	0	1441	343	5060	0
Right Turn on Red				Yes				No				Yes			Yes
Satd. Flow (RTOR)			70						1		49		7		
Link Speed (mph)			30			30			30				30		
Link Distance (ft)			643			323			1018				674		
Travel Time (s)			14.6			7.3			23.1				15.3		
Peak Hour Factor	0.38	0.50	0.65	0.69	0.88	0.85	0.63	0.50	0.65	0.91	0.73	0.85	0.56	0.97	0.71
Adj. Flow (vph)	26	20	8	70	41	6	6	56	40	889	392	54	70	638	21
Shared Lane Traffic (%)												10%			
Lane Group Flow (vph)	26	0	98	0	41	6	62	0	40	1286	0	49	70	659	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Right	Left	Left	Right
Median Width(ft)			12			12			12				12		
Link Offset(ft)			0			0			0				0		
Crosswalk Width(ft)			16			16			16				16		
Two way Left Turn Lane															
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	9	15		9
Number of Detectors	1	1	2		1	2	1		1	2		1	1	2	
Detector Template	Left	Left	Thru		Left	Thru	Right		Left	Thru		Right	Left	Thru	
Leading Detector (ft)	20	20	100		20	100	20		20	100		20	20	100	
Trailing Detector (ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Position(ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Size(ft)	20	20	6		20	6	20		20	6		20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	


















2024 Plus Site AM

1: Scottsdale Road & EarlI Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Detector 1 Channel															
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)			94			94				94				94	
Detector 2 Size(ft)			6			6				6				6	
Detector 2 Type			Cl+Ex			Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel															
Detector 2 Extend (s)			0.0			0.0				0.0				0.0	
Turn Type	Perm	Perm	NA		Perm	NA	Perm		Perm	NA		Perm	Perm	NA	
Protected Phases			4			8				2			6		6
Permitted Phases	4	4			8		8		2			2	6		
Detector Phase	4	4	4		8	8	8		2	2		2	6	6	
Switch Phase															
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	25.0	25.0	25.0		25.0	25.0	25.0		25.0	25.0		25.0	25.0	25.0	
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0		78.0	78.0		78.0	78.0	78.0	
Total Split (%)	35.0%	35.0%	35.0%		35.0%	35.0%	35.0%		65.0%	65.0%		65.0%	65.0%	65.0%	
Maximum Green (s)	36.9	36.9	36.9		36.9	36.9	36.9		72.3	72.3		72.3	72.3	72.3	
Yellow Time (s)	3.3	3.3	3.3		3.3	3.3	3.3		4.4	4.4		4.4	4.4	4.4	
All-Red Time (s)	1.8	1.8	1.8		1.8	1.8	1.8		1.3	1.3		1.3	1.3	1.3	
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.1		5.1		5.1	5.1	5.1		5.7	5.7		5.7	5.7	5.7	
Lead/Lag															
Lead-Lag Optimize?															
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Recall Mode	None	None	None		None	None	None		Max	Max		Max	Max	Max	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0		11.0	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0		0	0		0	0	0	
Act Effct Green (s)	9.1		9.1		9.1	9.1	9.1		76.0	76.0		76.0	76.0	76.0	
Actuated g/C Ratio	0.09		0.09		0.09	0.09	0.09		0.79	0.79		0.79	0.79	0.79	
v/c Ratio	0.20		0.47		0.34	0.03	0.42		0.07	0.50		0.04	0.26	0.16	
Control Delay	41.5		22.6		46.3	37.4	47.7		2.9	4.5		0.9	5.8	2.6	

2024 Plus Site AM

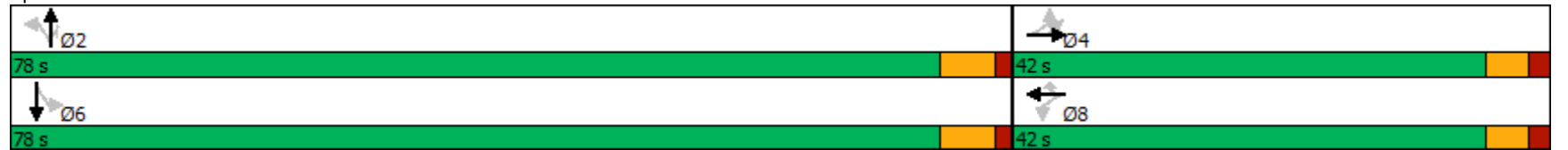
1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Queue Delay	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Delay	41.5		22.6		46.3	37.4	47.7		2.9	4.5		0.9	5.8	2.6	
LOS	D		C		D	D	D		A	A		A	A	A	
Approach Delay			26.6			46.6				4.3					2.9
Approach LOS			C			D				A					A

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 95.9  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.50  
 Intersection Signal Delay: 7.0      Intersection LOS: A  
 Intersection Capacity Utilization 53.6%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 1: Scottsdale Road & Earll Drive & Drinkwater Boulevard


















2024 Plus Site PM

1: Scottsdale Road & Earl Drive & Drinkwater Boulevard

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations															
Traffic Volume (vph)	13	16	15	58	49	23	54	6	86	731	55	350	51	1327	20
Future Volume (vph)	13	16	15	58	49	23	54	6	86	731	55	350	51	1327	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.91	0.91
Frt			0.925					0.850		0.982		0.850		0.997	
Flt Protected	0.950		0.984		0.950				0.950				0.950		
Satd. Flow (prot)	1770	0	1695	0	1770	1863	1583	0	1770	3329	0	1441	1770	5070	0
Flt Permitted	0.737		0.893		0.614				0.136				0.268		
Satd. Flow (perm)	1373	0	1539	0	1144	1863	1583	0	253	3329	0	1441	499	5070	0
Right Turn on Red				Yes				No					Yes		Yes
Satd. Flow (RTOR)			34						6			354		4	
Link Speed (mph)			30			30			30					30	
Link Distance (ft)			643			323			1018					674	
Travel Time (s)			14.6			7.3			23.1					15.3	
Peak Hour Factor	0.67	0.39	0.63	0.89	0.35	0.75	0.90	0.50	0.89	0.88	0.71	0.89	0.80	0.86	0.75
Adj. Flow (vph)	19	41	24	65	140	31	60	12	97	831	77	393	64	1543	27
Shared Lane Traffic (%)												10%			
Lane Group Flow (vph)	19	0	130	0	140	31	72	0	97	947	0	354	64	1570	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Right	Left	Left	Right
Median Width(ft)			12			12			12					12	
Link Offset(ft)			0			0			0					0	
Crosswalk Width(ft)			16			16			16					16	
Two way Left Turn Lane															
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	9	15		9
Number of Detectors	1	1	2		1	2	1		1	2		1	1	2	
Detector Template	Left	Left	Thru		Left	Thru	Right		Left	Thru		Right	Left	Thru	
Leading Detector (ft)	20	20	100		20	100	20		20	100		20	20	100	
Trailing Detector (ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Position(ft)	0	0	0		0	0	0		0	0		0	0	0	
Detector 1 Size(ft)	20	20	6		20	6	20		20	6		20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
















2024 Plus Site PM

1: Scottsdale Road & Earl Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Detector 1 Channel															
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)			94			94				94				94	
Detector 2 Size(ft)			6			6				6				6	
Detector 2 Type			Cl+Ex			Cl+Ex				Cl+Ex				Cl+Ex	
Detector 2 Channel															
Detector 2 Extend (s)			0.0			0.0				0.0				0.0	
Turn Type	Perm	Perm	NA		Perm	NA	Perm		Perm	NA		Perm	Perm	NA	
Protected Phases			4			8				2			6	6	
Permitted Phases	4	4			8		8		2			2	6		
Detector Phase	4	4	4		8	8	8		2	2		2	6	6	
Switch Phase															
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	25.0	25.0	25.0		25.0	25.0	25.0		25.0	25.0		25.0	25.0	25.0	
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0		78.0	78.0		78.0	78.0	78.0	
Total Split (%)	35.0%	35.0%	35.0%		35.0%	35.0%	35.0%		65.0%	65.0%		65.0%	65.0%	65.0%	
Maximum Green (s)	36.9	36.9	36.9		36.9	36.9	36.9		72.3	72.3		72.3	72.3	72.3	
Yellow Time (s)	3.3	3.3	3.3		3.3	3.3	3.3		4.4	4.4		4.4	4.4	4.4	
All-Red Time (s)	1.8	1.8	1.8		1.8	1.8	1.8		1.3	1.3		1.3	1.3	1.3	
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.1		5.1		5.1	5.1	5.1		5.7	5.7		5.7	5.7	5.7	
Lead/Lag															
Lead-Lag Optimize?															
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Recall Mode	None	None	None		None	None	None		Max	Max		Max	Max	Max	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0		11.0	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0		0	0		0	0	0	
Act Effct Green (s)	16.9		16.9		16.9	16.9	16.9		73.9	73.9		73.9	73.9	73.9	
Actuated g/C Ratio	0.17		0.17		0.17	0.17	0.17		0.73	0.73		0.73	0.73	0.73	
v/c Ratio	0.08		0.46		0.74	0.10	0.27		0.53	0.39		0.31	0.18	0.43	
Control Delay	34.8		32.3		62.3	34.8	38.3		21.2	6.4		1.4	6.9	6.4	

2024 Plus Site PM

1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

															
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Queue Delay	0.0		0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Delay	34.8		32.3		62.3	34.8	38.3		21.2	6.4		1.4	6.9	6.4	
LOS	C		C		E	C	D		C	A		A	A	A	
Approach Delay			32.6			51.7				6.1					6.4
Approach LOS			C			D				A					A

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 101.6  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 10.7  
 Intersection Capacity Utilization 56.5%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 1: Scottsdale Road & Earll Drive & Drinkwater Boulevard

